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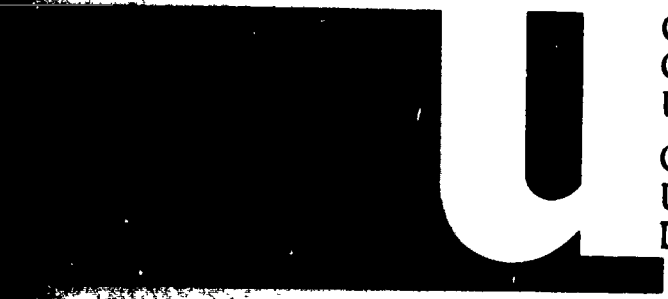
ABSTRACT

A study by the Council of Ontario Universities on tuition fees for undergraduate university programs (especially on factors that need to be considered in establishing and financing an appropriate level of fees) is discussed. Seven chapters are as follows: introduction (reasons to study fees, policy questions concerning tuition fees, and outline of the report); evolving a tuition fee policy (e.g. emerging public support for universities and origins of government control of fees); tuition fees at Ontario universities (e.g. tuition fees and student aid, tuition fees and operating expenditures, and total cost of university education); accessibility and the demand for university education (e.g. economic and social factors influencing enrollment decisions); economic and social benefits of university education (e.g. returns to investment in university education and to selected programs); alternative approaches in setting tuition fees (e.g. recommendations from public commissions and public opinion polls on fees and financing); and financing students' tuition and other costs (e.g. Ontario Student Assistance Program and prepaid tuition fees). Three appendices are: supplementary data; Ontario Council on University Affairs tuition fee advisory; Australian Higher Education Contribution scheme; and issues in rate of return analysis. Contains approximately 180 references. (SM)

FOCUS ON FEES

Alternative Policies For University Tuition Fees

David A. A. Stager



COUNCIL OF ONTARIO UNIVERSITIES

CONSEIL DES UNIVERSITÉS DE L'ONTARIO

FOCUS ON FEES

Alternative Policies For University Tuition Fees

David A.A. Stager

Council of Ontario Universities
Conseil des Universités de l'Ontario
130 St. George Street
Toronto, Ontario
M5S 2T4

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David A. A. Stager is Professor of Economics at the University of Toronto.

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In memory of my mother
Norma Stager

Preface

The focus of this study is on tuition fees for undergraduate university programs, and especially on factors that need to be considered in establishing and financing an appropriate level of fees. The major challenge has been to anticipate questions and assumptions that might arise in discussions on alternative tuition fee policies, and to provide the relevant evidence and a conceptual framework for dealing with these issues. Some of the discussion may seem rather theoretical, or comments on the statistics and their shortcomings seem too detailed, but one should hope that deliberations having such an important impact on Ontario's universities would be supported by an informed review of facts and issues.

The Council of Ontario Universities intended that this report be primarily "a solid historical and factual account", and that there be no formal recommendations. This is just as well. A detailed defense of recommendations on such a controversial topic would undoubtedly draw attention to particular issues in isolation, and away from the complex, inter-related set of factors that bear on the tuition fee questions.

Several people at the Council of Ontario Universities have made substantial contributions to this report. Principal David C. Smith (Queen's University), chair of the COU Steering Committee on the Tuition Fee Study, persuaded me to undertake this work and raised many thoughtful questions on earlier drafts. The members of the steering committee contributed to provocative discussions of specific issues that have led to greater breadth and depth in the report. I am especially grateful to the steering committee, and other members of the Council and staff, for the complete freedom I was accorded in the design and development of the study. Edward DesRosiers, Director of Research, and his research associates, provided editorial and material assistance in many ways. Laura Selleck contributed draft material on accessibility and provincial policies, located many valuable publications, and coordinated the project in general. Larry Payton and Arlene Levine turned the original manuscript and a variety of figures and tables into a proficient piece of desktop publishing. A working committee from various universities added institutional information and other historical data. Contributions from Ken Snowdon (Queen's) and Martin England (Toronto) provided the foundation for the early drafts of some chapters.

I am also indebted to several persons whose comments and information have improved the report: Charles Bélanger (Laurentian University); John F. Crean (former secretary of the Bladen Commission); Clément Lemelin (Université de Montréal); J. Stefan Dupré (University of Toronto); and Douglas T. Wright (University of Waterloo).

At a critical point in the analysis, Jack Parkinson provided very proficient assistance in programming and computing. My special thanks again go to Celia Genua for typing the successive drafts with experienced deftness and good cheer and for persevering through several revisions. Finally, I am grateful to my family and friends for their understanding and patience, and for postponing the good times until the work could be completed.

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Chapter 1

Introduction

Why a Study on Fees?

Why is it desirable to have what may initially appear to be another study of university financing and student financial assistance? In fact, a search of the literature on Canadian education reveals few studies that focus on tuition fees,[1] and none that combines an analysis of historical experience with policy objectives and alternatives for setting tuition fees.

Evidence of a need for a report of this kind can also be found in the confusion apparent in current private discussions and public statements on tuition fees in particular and the financing of universities in general. First, there is confusion about the facts: what percentage of the cost of a student's university education is covered by the tuition fee? What is the average debt incurred by students? What percentage of undergraduates are receiving financial aid? Are current tuition fees higher or lower (in real terms) than they were ten, twenty, or thirty years ago?

Second, there is confusion about the definition of policy objectives: what is meant by accessibility? by participation rates? by social benefits? Third, there is confusion about the conceptual framework: what is included in private costs and benefits of higher education? how can one measure the redistributive effects? - or who benefits and who pays? While both experts and laypersons can legitimately argue about any of these questions, discussion and debate can at least be given a sharper focus when there is a common framework and a full account of the empirical evidence.[2]

Fourth, there is confusion about the very concept and objectives of a tuition fee policy. Generally, there is not a clear distinction in policy deliberations and planning between three policy questions: tuition fees, accessibility, and student aid. It seems that governments, universities, and student organizations often view changes in student aid programs as linked primarily to

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[1] Litten (1984) reports that "of 16,413 entries in the ERIC [mainly American] bibliography on higher education, 297 (1.8 per cent) are indexed with tuition as a topic; only 103 (0.6 per cent) have tuition as their major focus" (p. 94).

[2] Wm. G. Bowen, who later became president of Princeton University, would arrive at his graduate seminar in labour economics with a pile of bound journals containing the assigned readings for the current topic; he explained "That's so that we don't waste time arguing about the facts."

changes in tuition fees, and regard fees as the main - perhaps only - factor in accessibility. But the objectives and assumptions for each of these policy areas should be defined more explicitly. It would then become more apparent that, although there are important links between them, the objectives and mechanisms need to be treated separately.

The Council of Ontario Universities wished to have a report that would outline the issues, summarize the relevant trends, examine related experience and policies in other jurisdictions, describe various approaches to setting tuition fees, and consider alternative means for providing financial assistance to students. The purpose of the study was not to make formal recommendations for public policy but to provide empirical evidence and policy alternatives that could lead to more informed decisions on the future of tuition fee policy in Ontario.

The proposal for the study specified four components:

1. an historical account of the quantitative changes in tuition fees relative to inflation, instructional costs, family incomes, and student aid, both in Ontario and in other jurisdictions;

2. an analysis of the private and social returns to university education by program of study;

3. a review of factors affecting access to university education, including the effectiveness of student aid in financing tuition fees;

4. a discussion of policy options with respect to tuition fees and student aid, including those practised in other jurisdictions, and the implications of their use in Ontario.

The focus of this study is on the tuition fees charged to Canadian residents for undergraduate programs in Ontario universities. These represent four-fifths of the universities' tuition fee revenue, and about one-sixth of their basic operating income. This focus has excluded an examination of fees for graduate programs and for persons studying in Canada on student visas.[3] Although both of these cases continue to raise important policy questions,

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[3] Persons on student visas accounted for 3 per cent of the undergraduate full-time equivalent enrolment in Ontario universities in 1988-89 and 7 per cent of the tuition fee revenue. Since 1983-84, the provincial government has set the visa student fee at a level that represents two-thirds of the "educational cost", as determined by the provincial grants formula. (A visa student fee has been established for two groups of undergraduate programs - those with a formula weight of 1.5 or less, and all those with a higher weight.) Since the provincial government does not reduce its grant by the amount of the visa student fee differential, the latter represents additional fee revenue for the Ontario university system.

they include separate issues that could not be treated within the limitations of this study. Nonetheless, one would expect that the concepts and evidence presented here would have some relevance to policy deliberations regarding fees for graduate and visa students.

Policy Questions Concerning Tuition Fees

In order to develop the above four components of the study in a manner that is most useful for policy consideration, the basic issues should be clearly and explicitly identified. While there may be some disagreement about what constitutes basic issues relating to the setting of tuition fees, there are certain unavoidable questions. These are:

1. What specifically is the intended objective of Ontario's current accessibility policy; and what impact does the tuition fee have on the attainment of this objective?

2. Should the general level of tuition fees be changed? This more often is expressed as "What is the appropriate share of the educational cost to be borne by students and their families?" But it is more important to raise two other questions, "Should the total educational investment per student be changed?" and "What would and should the effect of the private/public share be on the general distribution of income in the economy?" In response to these questions, one needs to consider the historical patterns of revenues for universities; the current quality of instruction and resources; the return on educational investment for individuals and society; the desire for economic growth and international trade; the current means and potential arrangements by which students can finance their tuition fees and other academic expenditures; and finally, the consequences for some redistribution within the population.

3. Should fees be differentiated to reflect differences in costs or in benefits associated with the different programs and levels of instruction both within and between universities? This question points most directly to key issues in determining tuition fees: To what extent is the fee an expenditure for a current (consumption) service, and to what extent is it an investment that is expected to yield greater earnings in the future? Is the public subsidy intended to assist students to finance their own choice of program? Or is the subsidy a public recognition of the different benefits that society derives from different programs?

4. How should students' tuition fees be financed? Traditionally, this financing had been based on family contributions from savings or current income; from students' own savings and summer employment; and from a few scholarships. But in recent decades, government loans and bursaries have become the main source for an important minority of students. In other jurisdictions, some novel mechanisms have been introduced to assist a much larger proportion of the students. These need to be considered for potential application in Ontario.

5. Finally, who should decide on the level and structure of tuition fees in Ontario universities? The universities have the legal responsibility for setting fees. But as the next chapter will show, this responsibility has been pre-empted by the provincial government for the past two decades. In addressing this question one needs to consider which fee-setting authority would have the most complete and relevant information and a full understanding of the social, economic, and academic implications of the decisions.

Perhaps the most important question is the latter one. Who should determine the level of tuition fees? The answer to this question both reflects and influences the economic and political system of a province or country. The predominant factor might be the market, the university, or the state; through the long history of higher education, each of these has had its day. While it is beyond the resources, if not the purpose, of this study to provide detailed responses to all of the above questions, the evidence provided with respect to each of the policy issues should lead to more informed and rational decisions by those who ultimately determine the level of fees at Ontario's universities.

Outline of the Report

This chapter has outlined the scope of the study and the basic policy issues or questions relating to the setting of tuition fees, and has presented a brief introduction to the principles or objectives that might bear on these questions. In Chapter 2, the historical evolution of the provincial tuition fee policy is examined; and then in Chapter 3, changes in fees in the major programs are compared with changes in inflation, operating costs, and private incomes. The government's policy on university accessibility is explored in Chapter 4, by considering alternative definitions and components of the policy and then examining the empirical evidence on the impact of fees, family income, and other social factors on enrolment decisions. Chapter 5 elaborates the objectives that usually govern the planning and financing of higher education, and particularly economic growth and income redistribution, and diversity of programs. Empirical evidence relating to these objectives is drawn from Ontario and other jurisdictions.

Chapter 6 presents a menu of alternative approaches to setting tuition fees. A review of recommendations from various federal and provincial commissions during the past two decades reflects the informed judgment of publicly-appointed groups, and thus points to the policy directions in which decision-makers could find some public consensus. The second part of this chapter discusses alternative approaches or rationales that might be applied in setting fees, and considers their impact on individual policy objectives. Chapter 7 reviews the conventional programs that assist students in financing tuition and other costs of university education; but the chapter is directed primarily to an exploration of alternative programs for financing these costs, with an emphasis on contingent repayment loans.

Chapter 2

Evolving a Tuition Fee Policy

The level of tuition fees (adjusted for inflation) has moved through both short-run and long-run cycles during the past several decades in Ontario. At the same time, the considerable differences in fees that once existed among programs and between universities in Ontario have long since disappeared; indeed, the tuition fee for any given program is effectively the same at all Ontario universities. One is therefore inclined to ask "How did we ever get here from there?" To understand the changing political and economic events that have led to this point, and to use these historical lessons in the development of a more rational tuition fee policy for the 1990s, this chapter examines the evolution of public policy concerning tuition fees at Ontario universities.

Fees in the Early Period

For the first 150 years of Ontario university history, there was nothing that could be regarded as a tuition fee policy. Through most of the nineteenth century, tuition fees represented a small part of the revenue for colleges or universities because these were supported mainly by private benefactors, with a little government assistance. When King's College was founded in 1827 at York (now Toronto), financial support from the early colonial government took three forms: an endowment of land, special grants for buildings, and a small annual maintenance grant (Harris, 1976). When Queen's University at Kingston, and Victoria College at Cobourg were chartered in 1841, government grants were provided to these colleges as well. But the general public "seems to have looked upon the university as a self-supporting institution" (Murray, 1925:22). Moreover, what appeared initially to be grants for buildings were actually loans, and were expected to be repaid out of revenue from the leasing or sale of the land endowments from the government (Harris, 1976). Indeed, King's College depended largely on its land endowment for its financial support for more than five decades, from 1828 to 1883.

The private funding of colleges was closely related to their educational objectives. The colleges were predominantly church-related institutions, intended primarily to give religious and political leadership to the growing colonies (Murray, 1927). Funds came directly from the churches and from the endowments of the wealthier members of the denominations. Prior to 1861, the revenue from tuition fees was an insignificant part of the colleges' income because the colleges could be supported by their benefactors, as well as by the revenues from the leasing of land (Ontario, 1896). Moreover, the students were being trained to take their places in the clerical and teaching positions

that would serve the interests of these private and public benefactors. By the early 1860s, there was a total of about 600 students registered at Toronto, Queen's, Victoria, and Trinity (King's College), where the combined annual incomes of these universities represented about $160 per student, or about $1000 in 1988 dollars (Hind, 1863).

Through the 1840s and 1850s, the "matriculated" or regular students in arts at Toronto were exempted from payment of tuition fees, and the fees paid by "occasional" students were passed on directly to the faculty to supplement their incomes (Ontario, 1896). But the university encountered budget deficits in the late 1850s and early 1860s when the construction cost of a new building exceeded the government's grant for this purpose. Consequently, tuition fees were reintroduced in 1861 (Ontario, 1896).

Emerging Public Support for Universities

A Public University for Ontario In 1887, a federation of the church-related colleges - Victoria, (which moved to Toronto), St. Michael's, Knox, Wycliffe - and the newly-established medical, dental, agricultural, and veterinary schools led to the establishment of the University of Toronto. This opened the way for a significant expansion in public support, but this source continued to be secondary to private contributions and tuition fees.

The university calendar for 1891-92 shows that the tuition fee for arts consisted of a college fee of $20 per year plus various university fees (for supplies, library, examinations) that amounted to about $30. This combined tuition fee of about $50 contributed approximately 25 per cent of the total operating cost. But it became necessary to increase fees substantially to meet the increasing operating costs during the following fifteen years when there was only a modest increase in the provincial grant. By 1906-07, tuition fees accounted for 40 per cent of the university's total revenue (Ontario, 1921).

Provincial government grants were improved during the next fifteen years, such that by 1921 about 60 per cent of the operating revenues for Ontario universities came from these grants; about 22 per cent came from tuition fees; and the balance came from endowment funds, the federal government, and private contributions.

Rising Tuition Fees and Student Financial Aid During the Depression of the 1930s, provincial government contributions declined seriously. Endowment income and other private donations also diminished as the decline in personal and corporate incomes in the 1930s reduced the annual gifts and bequests to the universities.[1]

[1] Not only was private and public aid declining but the yield on existing endowments was also falling. A maturing 6 per cent bond was replaced by a 3 per cent bond, such that endowment in 1939 produced only about two-

Universities again responded to a financial crisis by raising the level of their tuition fees. The vice-principal of Queen's University observed that a student in 1939 was paying from 40 per cent to 50 per cent of the cost of his education, and expressed a fear that the increasing costs would prevent students from lower-income families from enroling in higher education (McNeill, 1939).

From the 1920s to the 1950s the main approach to increasing students' accessibility to a university education was through increasing public financial assistance for students, rather than by reducing tuition fees. The latter course would have required substantially increased government grants, and it was recognized that this would place an inequitable burden on taxpayers since such a small proportion of the young population was participating in university education. Through the 1930s there were various appeals for government scholarships and bursaries to assist the financially disadvantaged students (Stager, 1972b:78ff). A Dominion-Provincial Student Aid Program was introduced in 1939, based on an equal sharing of costs by the federal government and participating provinces, but it appears to have had only a minor impact on increasing opportunities for students from low-income families (Pike, 1970).

Several requests for student aid were also made to the Rowell-Sirois Commission on Dominion-Provincial Relations appointed in 1939. The Commission was reluctant to recommend federal support for higher education because the Commission sought to emphasize the provincial responsibility for education, both for constitutional reasons and because the provincial governments had reduced their educational expenditures during the Depression (Canada, 1940). However, it did recommend a small federal grant to the provinces to provide university scholarships and bursaries which would bring educational opportunities within the reach of poor but able students.

Much of the concern about student financial aid from 1940 to 1945 was directed to assuring that proper provision would be made for returning soldiers who wished to continue their education. The projected veteran enrolment of 35,000 to 40,000 persons would double the level of enrolment that had been accommodated in Canadian universities in 1939 (Stager, 1973). Although tuition fees covered about 40 per cent of operating costs at that time, a doubling of enrolment would lead to a sharp increase in the total operating costs that could not be covered by the additional fees from the veterans.

The universities (through their national organization) proposed a federal grant of $150 per student veteran. In agreeing to this grant, the federal government stipulated that the universities should avoid "excessively large classes". In this sense, the federal grant could be seen as providing funds to assure both

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thirds of the yield of ten years earlier (McNeill, 1939). The general price level also fell, but by less than the reduction in universities' income.

accessibility and quality. From 1945 to 1951, the federal government continued to offer this essential support to the universities through the Veterans Rehabilitation Act.

Federal Support for the Universities By 1951, enrolment began to decline as the veterans graduated from their accelerated programs. The universities foresaw a return to the prewar conditions of uncertain financial support, and the need either to increase tuition fees or to decrease their teaching staff and programs. Since provincial grants were virtually unchanged (in real terms) from their 1941 levels, higher tuition fees and increased private philanthropy were the only apparent routes to fiscal and faculty survival.

The Massey Commission on National Development in the Arts, Letters, and Sciences recognized the universities' financial crisis in its 1951 report. It recommended the implementation of direct federal financial assistance to the universities,[2] and an enlargement of the federal/provincial program of bursaries and loans (Canada, 1951). The Commission's recommendations were adopted by Parliament within a month of their presentation, but only because strong public support had been engendered by a nationwide speaking campaign organized by the university presidents (Stager, 1973).

The federal government's grants for veterans, and then for general university assistance, helped the universities bridge the financial crisis through the late 40s and the 1950s. The early 1960s presented another problem - the sharp increase in the university-age population.

Origins of Government Control of Fees

Proposal For A Grants Formula[3] As the postwar baby boom began to reach the end of its secondary schooling and to present an enrolment challenge to the universities, the Canadian Universities Foundation (CUF), commissioned an independent review of the financing of higher education in 1964, chaired by V.W. Bladen.[4] The dramatic growth in potential enrolments

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[2] The federal grants were rejected by Quebec on constitutional grounds. The grants were paid into a fund until 1960 when they were finally accepted by the Quebec provincial treasurer.

[3] I am greatly indebted to Martin England, University of Toronto, for authoring an original paper that forms the basis for this section on the evolution of Ontario's financing formula from the Bladen Commission to the current (1988-89) formula. See also Darling *et al* (1989). Any errors or omissions in the following version are entirely of my own creation.

[4] The Canadian Universities Foundation was the executive agency of the National Conference of Canadian Universities, the predecessor of the Association of Universities and Colleges of Canada (AUCC). Professor V.W.

had spawned numerous committees and reports during the early 1960s to prepare for physical growth in the universities. While both levels of government had committed themselves to an expansion of facilities for postsecondary education, the means by which the growth was to be financed had yet to be determined:

> Meanwhile, expansion has been proceeding: established universities have provided for increased enrolment and new universities have been founded in the confident expectation that the necessary financial support will be forthcoming. The provinces appear to have become committed to expansion on a very large scale; they now face the problem of finding the necessary funds (CUF, 1965:6).

Provincial operating grants to universities had previously been determined through a process of budget submissions and negotiations between individual institutions and the provincial government. This process was unsatisfactory to both the universities and the government for several reasons: 1) the line-by-line scrutiny of university budgets opened the universities to government control and exposed the government to charges of favouritism; 2) the budgetary approach to grants encouraged 'deficit financing' that provided no incentive for efficiency; 3) the annual negotiations made it impossible to do long-term planning; and 4) potential private donors were dissuaded from contributing to universities when they knew that the contributions would simply reduce the amount of the government's grant.

To overcome these problems, and especially to provide more predictable funding and to reinforce university autonomy, there was considerable interest in devising a formula that could be used to determine provincial government grants. During the preceding decade, there had been increasing use of formulas and cost analysis in some of the American states (Miller, 1964). This approach, however, still involved line-item scrutiny of budgets, with proposed expenditures measured against an institutional norm that had been calculated by the state government. It was this type of formula that the universities in Canada, and particularly in Ontario, wished to avoid. The basic distinction that was made by the universities was between a budgeting formula and a granting formula. At the same time, the Robbins committee on higher education in the United Kingdom (U.K., 1963) had recommended various mechanisms for protecting the universities' financial autonomy, but these were of the 'buffer body' type that held the potential for more centralized control of the individual universities.

Both in briefs to the Bladen Commission and in comments made in the Ontario legislature, there were proposals for a granting formula. The leader

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Bladen was a political economist, dean of the Faculty of Arts and Science at the University of Toronto, and the chairman of the one-person royal commission on the Canadian automobile industry, which had reported in 1961.

of the New Democratic Party (Donald C. Macdonald) argued that university funding should be discussed on the basis of a formula and the Minister of University Affairs (Wm. G. Davis) informed the legislative assembly that:

> The question of universities making annual submissions to the committee is something we, too, would like to alter...It would make my work...relatively simple if a formula could be established whereby the universities need only calculate the number of students in each faculty and let the government establish a formula whereby each student received x number of dollars (CUF, 1965:43).

The grants formula that was proposed by the Bladen Commission was based on enrolments that would be weighted by program of study and multiplied by a grant per weighted enrolment. But the Commission also advocated that tuition fees be determined by the universities, and thus separated from the funding formula, as an instrument of differentiation between universities:

> The proposal that universities be free to establish their own fees, with a system of formula financing, would give each university additional control over its destiny. A university might decide that some educational variant, let us say a higher ratio of staff to students than is general, would raise costs above what could be met from the funds available, but would be so beneficial to students that they would pay higher fees to come to a university offering that variant. Freedom to experiment would be promoted (CUF, 1965:81).

Fees in the Original Ontario Formula The formula that was actually implemented by Ontario in 1967 differed from the formula proposed by the Bladen Commission. Tuition fees were subtracted from the government-determined level of total operating income in establishing the government's grant to the universities. But the government's advisory Committee on University Affairs (CUA), in proposing the original operating grants formula to the Ontario government, had clearly endorsed the autonomy of the universities in setting tuition fees, and recognized the potential differentiation of fees for similar programs.[5] In a memorandum that led eventually to the new (but different) formula, a CUA subcommittee emphasized that:

> It would be improper for the government to determine fees, and homogeneous province-wide fee scales are equally inappropriate. In fact, with new and worthwhile variations being introduced in the pattern of higher educat' n in Ontario, *much larger variations in fees*

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[5] A committee of the CUA had independently been working on the development of a grants formula at about the same time the Bladen Commission was preparing its final recommendations. In each case, the intent was to find a formula that would yield approximately the same revenues for the universities, while avoiding the problems already described.

> *leading to the same degree may be in order to reflect variations in cost* (Ontario CUA, 1965:12. Emphasis added).

Tuition fees were to be taken into account in the operating grants formula, not so that the government could regulate the fee level, but as a reflection of the recent pattern of sources of operating income for the universities. It was intended that this historic pattern would provide the base for a formula that would determine the required level of provincial funding in each succeeding year. In other words, the formula was to be a simple codification of existing funding sources, designed so that it would replicate the level and composition of this funding, and such that universities could continue to receive an adequate level of support without having to engage in the submission of individual budgets. That is

> ...the formula should be designed to indicate some kind of nominal gross income, embracing the aggregate of provincial grants, federal grants, and fees. It is difficult to see how any other approach would have any hope of reasonably long term effectiveness. Actual provincial grants would then be determined by subtracting federal grants and fees from the aggregate (Ontario CUA, 1965:13).

The formula proposed by the subcommittee of CUA made it clear that it was intended to be an instrument to reinforce the autonomy of the universities rather than a mechanism for financial control by the government. But while the government's implementation of a grants formula did not lead it to assume control over tuition fees directly, its control of the basic operating income enabled the government to control fees indirectly through its determination of a standard fee for calculating the government grants.

Determination of the Standard Fee In the formula actually implemented by the government, the universities' basic operating income was to be calculated on the basis of two major sources: (i) standard tuition fees; and (ii) provincial government grants. The rationale for the standard fee was described as follows:

> For purposes of calculating the distribution of the Provincial grant, the use of a 'standard' fee for each course is suggested. Consideration was given to the use of actual fees, but this was rejected as being prejudicial to individual institutions. The suggested method has the benefit of discouraging universities from moving towards higher fees. At the same time it is pointed out that this method would not preclude universities from charging special fees for special services. The Committee [CUA], proposes the use of standard fees and suggests that the universities be encouraged to move towards a common fee structure and possibly a single academic fee for all courses and years (Ontario CUA, 1966).

In proposing this use of standard fees, and movement toward a single fee for all courses and years, the CUA completely contradicted the advice of its

subcommittee which the preceding year had emphasized that even larger variations in fees would be warranted. This was the outcome of opposing political and academic views within the CUA, and established the mechanism for government control of fees.

The standard fee was the median value of the fee charged for any given program by all institutions.[6] Universities retained the right to set their own tuition fees, but the use of the median fee in determining provincial grants exercised a strong influence on fee levels. An institution charging less than the median was compelled to move its fees up to the median in order to maintain its total revenues. This same institution would be discouraged from moving above the median, since this would alter the median itself, neutralizing the financial benefits of doing so for the particular institution. Not only would the benefit be neutralized for that institution, it would penalize all institutions below the median.

The Committee of Presidents of the Universities of Ontario (CPUO) immediately recognized this problem during the first year (1967/68) of the formula's implementation, and endeavoured to find a plan that would correct the "frozen injustice" resulting from using the median value to define the standard fee. One proposal was that a universal standard fee be adopted for the purpose of calculating provincial grants and that universities then establish their own common schedule of actual fees. The ensuing discussion in the CPUO indicated a divided view, with some presidents favouring a uniform fee or schedule of fees while others wished to retain individual university autonomy to charge fees above or below the standard fee (CPUO Minutes, January, 1968). Consequently, a CPUO subcommittee was asked to study the relationship of tuition fees and the grants formula and to consider alternative policies.

In its report, the subcommittee recalled that the original proposal for a grants formula had allowed universities to set their own fees and that the standard fee had indeed been intended only as a nominal fee that would be used in calculating the size of the government grant (CPUO, 1968). But in one short paragraph, the subcommittee dismissed the possibility of retaining the universities' autonomy in setting fees:

> It has been argued that the government should recognize a standard, unchanging fee or set of fees for formula purposes, and should permit the universities to set their actual fees at any figure they like. *There is no point in examining this possibility because it is unacceptable to the government* (CPUO, 1968: 15. Emphasis added.)

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[6] The reason for using the median rather than the weighted mean (or even the unweighted mean) is not recorded. One may assume, however, that the intent was to use a fee that represented approximately the mid-range of the fees charged.

The subcommittee believed that the government would not agree to universities setting their own fees because of its fear that this would result in "unduly high fees". But some members of the CPUO argued that "competition would provide an effective deterrent to excessively high fees" and that universities should be permitted to at least set fees that reflected the differences in program costs between universities (CPUO Minutes, April 1968).

The CPUO subcommittee considered several methods for restoring this principle. Most were judged not feasible either because some universities would benefit while others would not or because higher fees would simply reduce the government's grant by the same amount. Three alternatives were considered that would correct the specific problems associated with the median-cum-standard fee: 1) a single fee for all programs; 2) a common schedule of fees that would bear some relationship to the costs of programs; and 3) the existing schedule of standard fees. A schedule of cost-related fees, differentiating fees for medicine ($600), engineering ($540), and all other programs ($450), was seen to be more favourable for the majority of students but would require a larger government contribution. The subcommittee finally recommended a universal fee of $480 for all undergraduate programs and $405 for all graduate programs.

The CPUO eventually decided, in April, 1969, not to adopt any of the subcommittee's recommendations. Although there was some support for using the current schedule of standard fees as a common fee schedule for all universities, this would have entailed a reduction in fees revenue for the previous 'winners' and a gain in revenues for the previous 'losers'. It would also have required fee increases at some universities, at a time when public opinion seemed to favour a reduction in fees.

The CPUO decided instead to adopt a common fee schedule based on the *lowest* fees charged in the Ontario university system for each of the major programs:

> The recommendation to set a uniform pattern of fees, based on the lowest fee charged for each programme by a university in the system, was then *approved in principle*, subject to support by CUA and DUA and agreement that necessary additional funds would be provided by the Government (CPUO Minutes, April 1969).

While avoiding any fee increases, it would require at least an additional $2 million grant from the government (some of which would be offset by a reduction in the Student Awards payments). When the CUA made it clear that the universities could expect no increase in the government grant, the CPUO abandoned this approach and returned to the "frozen injustice" of the median fee.

The irony of this dilemma with a standard fee was that government did not initially impose control over the fee levels; rather the financing method drew

the universities into effective regulation. Because individual institutions could not by their own actions control the median fee, there was increasing reluctance to adjust the actual fees. Moreover, this recourse to a median fee was originally intended to discourage universities from charging low fees (and thereby increasing the government grant) but it was transformed over time into a ceiling on fees. The further irony is that although the government had announced a policy of universal accessibility to postsecondary education, it did not intend that low and regulated tuition fees would necessarily be the instrument by which this policy objective could be met.

Evolving a Tuition Fee Policy

The 1970s: Action Without Policy By 1969 the government had assumed effective control over fee levels, but it lacked an explicit tuition fee policy, or an appropriate method by which tuition fees could be determined. The standard fee for each program continued to be defined as the actual median fee in the university system. In 1971-72, however, the median fee for each program was fixed as the formula or standard fee on which future adjustments would be based.

This specific action, by which the government removed the last vestige of *de facto* university autonomy in setting fees, was initially seen as a favourable decision for the universities. The government permitted the universities whose fees were below the median to adjust their fees up to the median level "without such actions by themselves altering the formula fees as they are not established" (DUA letter to COU, successor to the CPUO, July 30, 1971). The "frozen injustice" had finally been corrected. But this meant that the formula fee (or standard fee) would no longer be defined by the median value, or any other value determined by the universities. Instead, the formula fee would be set by the government.

The government increased the formula fee by $100 for 1972/73. It is not clear to what extent the universities had been consulted on this action, or whether they had indeed encouraged the government to increase fees. In any case, the universities had little choice but to pass this on as an increase in the actual tuition fees in order to avoid a reduction in operating revenues. The increase was also greeted with considerable opposition from student organizations. In the face of such political controversy and in the absence of an explicit policy, and despite increasing inflation, fees remained unchanged from 1972 to 1977.

In 1975, the Ontario government's (Henderson) Program Review Committee had recommended that the government allow the universities to set their own tuition fees so that government grants could be reduced as a share of the total operating costs (COU, 1978). It specifically suggested that fees should rise to about 24 to 28 per cent of operating costs, which was the level reached in the mid-1960s. This would require that fees be increased by about 65 per cent. (A further recommendation proposed that existing federal and provincial

student assistance schemes be replaced by an all-loan plan with repayments based on graduates' incomes.)

The Council of Ontario Universities (COU) reacted to these proposals in a submission to the Ontario Council on University Affairs (OCUA), the successor to the CUA, by stating the principles that should govern the setting of tuition fees (COU, 1976). The COU argued that universities should regain control of tuition fees and exercise their legal prerogative for setting fees, within a framework of five principles: 1) the current government grant should be at least maintained in real (constant dollar) terms; 2) fees should increase (with adequate advance notice) but not so that they would "substantially increase the burden upon the students"; 3) changes in fees should be accompanied by increases in student aid, and particularly in the grant portion; 4) fees might differ between universities, in accordance with different financial circumstances; and 5) fees for different programs should be based primarily on consideration of accessibility rather than the graduate's future financial returns or the institution's program costs.[7]

In arriving at this position, the COU affirmed that students should pay a fair share of the total cost of their university education. But when the COU addressed the question "What is a fair share?" it revealed that no consensus could be found. It was left with the ambivalent conclusions that the answer depends somewhat on historical circumstances, and that "the test of reasonableness is all-important".

The COU statement of principles, and the ensuing OCUA hearings contributed little to a resolution of the tuition fee issue. Moreover, a government decision in 1977 to increase the formula fees again by $100, after a five-year freeze, emphasized the need for a policy on fees.[8]

The 1979 Tuition Fee Policy In 1979, the provincial government sought the advice of the Ontario Council on University Affairs (OCUA) on a tuition fee policy. The resulting statement dealt with four central issues: 1) accessibility and financial assistance; 2) the concept and level of formula fees;

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[7] The secretary of the COU, in forwarding this report to the chairman of the OCUA, commented that:

> ...this is a controversial area and we have not found it easy to determine a consensus position...It should be noted in particular that principle #4 was adopted by a vote of 12 to 10 (Letter, 9 June 1976).

[8] There likely were several reasons for this five-year freeze on tuition fees, but the political instinct and influence of then premier, Wm. G. Davis, seem to have been predominant (Dupré, 1977). It has also been suggested that the government was concerned about the impact a fee increase would have on the costs to the Ontario Student Assistance Program (OSAP).

3) the indexing of fees; and 4) institutional autonomy in setting tuition fees (OCUA, 1979). This memorandum is reproduced in full in Appendix B.

With respect to accessibility, the OCUA commented on the lack of conclusive evidence that related changes in tuition fees to the demand for university education. This is surprising and puzzling because a major study had dealt with this topic in the Ontario context (Handa, 1970) and several survey articles had been published (Handa and Skolnik, 1972; Jackson and Weathersby, 1975; McPherson, 1978) and were easily available to the OCUA. The Council recommended that accessibility be reassessed after three or four years to determine whether the fee increases it was about to propose had affected university participation rates. This retrospective study apparently was never undertaken; nor had there been any study of the effect of the freeze on tuition fees between 1972 and 1977.[9]

The OCUA recommended that a standard fee be retained as part of the formula, and gave special attention to annual adjustments in this fee. Its proposal that annual increases in formula fees be equal to the annual percentage increase in "government operating grants to the university system" had the appeal of visible equity - students would in effect enter into a partnership with government wherein their share of operating costs would neither exceed nor fall behind that of government.[10] The consequence of this mechanism, however, was the freeze it imposed on the student's share. Indeed, the Council stated at the outset of its policy statement that it had chosen not to address "the optimum balance between the student's share and the government's share because this question was related to the larger issue of income redistribution".

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[9] It is not uncommon for governments to leave the effects of their policies on tuition fees or student aid to go unexamined. In a survey of the major public universities in the United States, it was reported that only 19 out of the 49 states had conducted a study of the effect of recent tuition and student aid policies on access and enrolment patterns (SHEEO, 1988).

[10] The indexing recommendation has been interpreted somewhat differently from year to year by the government. During the early 1980s, virtually all of the government grants to universities were based on the formula and the annual change in the total formula grants was used as the percentage increase in formula fees. In recent years, and particularly since 1986, the government has decreased the relative proportion of the formula grants, with an increasing proportion of grants to universities being distributed through targeted funding. For the period 1986-87 through 1988-89, formula fees increased at roughly the same rate as basic grants. For 1989-90, however, fees will increase at the rate of increase in *total* grants, including targeted funds. The difference between the two measures of increases in the grants can be quite significant in any given year. When the index was derived from base grants, rather than the total grants, there was a further decline in the proportion of total operating costs that came from tuition fees.

On the issue of universities' autonomy in setting fees, the OCUA acknowledged that there were "widely differing opinions", ranging from restoration of full autonomy to complete government control. Ultimately, the OCUA chose the middle ground, "a solution which was equitable for all": formula fees should remain unchanged, apart from the annual indexation, but a university could elect to raise fees up to 110 per cent of the formula fee without facing a reduction in the government's operating grant:

> It seems appropriate that some autonomy in setting fees be returned to the universities. However, the degree of autonomy should not be such that tuition fees would become a prime factor in a student's choice of university or program (OCUA, 1980:63).

Apparently a maximum increase of 10 per cent was regarded by OCUA as a reasonable range for institutional freedom in setting fees, consistent with the concern for accessibility. In effect, it was willing to experiment with the sensitivity of enrolment to changes in fees within this 10 per cent range, and would review the experiment in three to four years.

The government implemented this proposal for the 1980-81 academic year. While it appeared that a way had at last been found to restore institutional autonomy, this discretionary range was not used by the institutions in a discretionary fashion. By 1982-83, all universities had moved to the maximum allowed. Again it is ironical that a policy intended to offer institutional differentiation resulted in uniformity.

That the universities would all increase their fees by 10 per cent was predictable. Enrolments had increased faster than government funding, and the universities were finding it even more difficult to maintain the range and quality of services than they had in the 1970s. Consequently, the 10 per cent increase in fees provided funds that would partly close the gap between the level of base funding that the OCUA had recommended and what the government had provided.[11]

Integration of Ancillary and Tuition Fees In 1982, when the government expressed concern over the array of ancillary or incidental fees levied by institutions, the OCUA was asked to review this matter. Ancillary fees at this time amounted to $100 to $125 at most universities (equivalent to about 10 per cent of the tuition fee) but ranged from $70 to $230, depending on the university and program (OCUA, 1983:135).

When the standard fee was introduced in 1967, as a component of formula financing, the Department of University Affairs (DUA) did not contemplate

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[11] Revenue from the 'discretionary' 10 per cent premium on the formula fee could also be used for purposes other than the normal operating costs described previously.

the prohibition or control of other fees: "...this method [assuming standard fees] would not preclude universities from charging special fees for special services" (DUA, 1966:15). Notwithstanding these original intentions, the government's recent concern was unambiguous:

> This activity [the review of ancillary fees] is particularly important in light of Cabinet's concern for the impact of ancillary fees on the provincial policy of accessibility ... (MCU letter to OCUA, June 8, 1983).

The OCUA decided, however, to support the prerogative of the universities to levy ancillary fees because they were "not unreasonable"; and there was little variation between institutions in the level of these fees.

By 1985 several universities had introduced large ancillary fees (up to $1,200 per annum) which the OCUA characterized as "back door tuition fees":

> Council views tuition fees as the contribution made by students towards the normal operating costs of the University including expenditures associated with instruction, non-sponsored research, academic support services (e.g. the library), administration and physical plant maintenance (OCUA, 1986:110).

Henceforward, compulsory ancillary fees that conformed to the foregoing definition would be prohibited. To compensate universities for the forgone revenue from such fees, the OCUA further recommended that the level of institutional discretion in setting fees be raised from 110 to 115 per cent of the formula fee schedule.[12] The government accepted the principle of this treatment of ancillary fees but estimated that an increase in tuition fees of only an additional 3 percentage points would compensate universities for the forgone revenue.[13]

Conclusions

Through the two decades since the initial proposal for a granting formula, the government's position on student fees has evolved from complete university

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[12] Universities could continue to charge ancillary fees for certain purposes including the costs of individual academic services (appeals, transcripts, etc.) and the costs of materials that the student would retain (printed material, art supplies, film); charges for health services, insurance, and parking; and fees for student activities, organizations, and athletics.

[13] This increase, from 110 to 113 per cent of the standard fee, was implemented in 1987-88. It appears as an increase in the tuition fee in the historical series on fee levels, and therefore overstates the current fee level in historical comparisons.

autonomy to complete government control.[14] This occurred with no change in the universities' legal authority to determine their fees nor in the legislative framework concerning the government's budgetary powers. More importantly, the evolution of tuition fee policy was not carefully deliberated; rather, it occurred in response to a variety of short-term political circumstances and pressures. (For a chronological summary of the evolution of tuition fees, see Table 2.1.)

During the 1950s and 1960s, accessibility or equality of educational opportunity was promoted through student aid programs designed to help low-income students meet the cost of rising tuition fees. But after the government gained control of tuition fees through the financing formula, the accessibility policy was pursued more directly by restraining general increases in tuition fees.[15] This use of low tuition fees to encourage participation by minority or low-income groups is also seen in Chapter 7 to be a more expensive policy - in terms of the results achieved - than specialized student aid programs that are directed at a target group.

The greatest puzzle that appears as one examines this evolution of tuition fees, in the context of the accessibility policy, is that so little attention has been given to the other costs of university education that are borne by students. Tuition fees have become a political symbol in the accessibility debates. Yet they are a smaller expense than the students' other expenses for room and board, books, supplies, and transportation, representing about one-fifth to one-quarter of a student's direct expenditures. This relationship of fees and other student expenditures is examined in greater detail in the next chapter.

Because the government has viewed tuition fees primarily as a vehicle for increasing accessibility to universities, it has not taken account of other factors that are usually considered in determining the amount and method of public financing for university education. These issues - such as the allocation of resources and income redistribution - are discussed at length in Chapter 5.

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[14] Perhaps government control can never be absolute. The universities have retained a tiny vestige of autonomy with respect to the administration of the fees revenue. At some universities, the fee is regarded as the price for a package of courses; if a student withdraws from a course, even early in the term, there is no refund of part of the fee. But at other universities, the fee is a price per course and a withdrawing student receives a *pro rata* refund. This apparent inequity is probably known only to university comptrollers and parents whose children are attending different Ontario universities.

[15] Accessibility in this context refers to the relationship between tuition fees and students' enrolment decisions. The government has also pursued another branch of accessibility policy by offering universities financial incentives to increase the number of spaces available.

Table 2.1

Chronology of Tuition Fee Policy Changes Since 1967

1967-68	Formula introduced for determining provincial government grants to universities. Standard fee used in the formula was the *median* value of the different fees charged by Ontario universities for each program.
1968-69	CPUO proposed that the *lowest* fee charged by any university should be the standard fee. This was *not* implemented.
1969	CPUO acknowledged that the provincial government had gained *de facto* control of tuition fees.
1971-72	The government adopted the current set of median-fee values as the standard or formula fee to be used hencefortn in calculating the formula grants. Universities therefore had no further influence on the formula fee.
1972-73	The government increased the formula fee by $100 in each program category; the universities added this increase to the actual fees.
1972 to 1977	Tuition fees remained fixed at the 1972-73 level.
1977-78	The standard or formula fee was again increased by $100, and this again was added to the actual fees.
1979	OCUA review of tuition fee policy.
1980-81	Implementation of OCUA recommendations for (1) allowing universities to increase fees up to 110 per cent of the formula fee; and (2) annual indexing of fees based on rate of increase in government grants.
1982-83	All universities charging fees at 110 per cent of standard fee.
1986	OCUA review of ancillary fee policy.
1987-88	The government permitted universities to increase fees by a further 3 percentage points (to 113 per cent of the standard) in lieu of certain ancillary fees.

Chapter 3

Tuition Fees at Ontario Universities

This chapter traces the changes in tuition fees at Ontario universities and compares these with changes in total educational costs for the student, the universities, and the economy. Comparisons are also made with changes in tuition fees at universities in other regions of Canada and in the United States.

Changes in Tuition Fees, 1929-1989

Tuition Fees Since 1929 The long-run pattern of changes in tuition fees in Ontario universities can be illustrated by reference to the fee for the arts program (later arts and science) from 1929 to 1989 at the University of Toronto.[1] This sixty-year period can be divided into five shorter periods that are evident in Figure 3.1. This chart illustrates not only the long-cycle changes in tuition fees, but also the very short-term effects of inflation on the real value of the fee. The saw-tooth effect occurs primarily because the fee was unchanged, or was increased by less than the annual inflation rate. This effect also emphasizes that changes in the tuition fee have been more irregular than changes in the inflation rate.

The fee doubled between 1929 and 1936 - particularly during the early part of the Depression - when the Ontario universities' income from government grants dropped from 60 per cent to 50 per cent of total operating income (Canada DBS, 1950). The impending deficit was avoided by increasing tuition fees, so that fee revenue rose from 22 to 30 per cent of total operating income, and by freezing or decreasing faculty salaries. Yet, while fees rose so sharply during this period, undergraduate enrolment in Ontario rose by 23 per cent (Canada DBS, 1950).

During the 1940s, fees did not keep up with inflation, so the real fee fell by more than 20 per cent. Part of this decline can be attributed to the wage and price controls imposed during World War II, but also to the fact that the federal government made a grant to the universities of $150 for each returning

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[1] The arts fee at the University of Toronto was selected because this has been the largest program at the largest university throughout the period. No time series exists that would show the weighted average undergraduate fee in Ontario. The actual annual fees, which were obtained from the faculty's annual calendar, were adjusted to 1988 prices, using the consumer price index (CPI), and then were indexed to the fee for 1988-89. These adjustments make it possible to see immediately from the chart the percentage changes in real terms that have occurred over various periods.

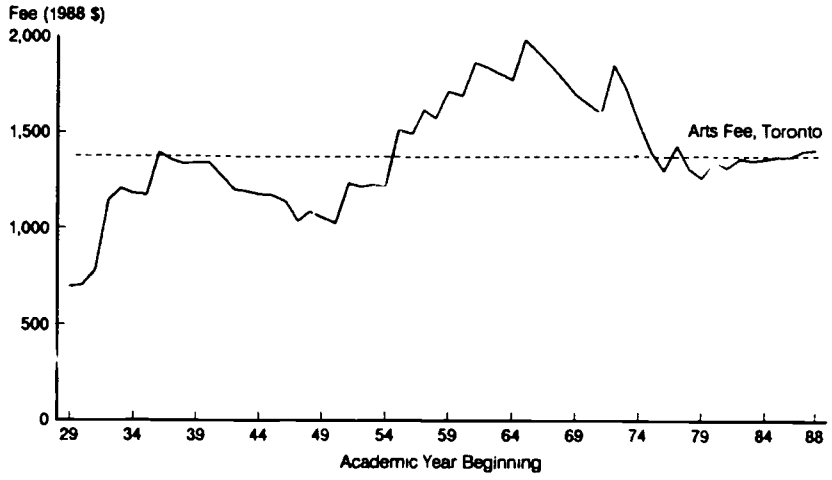

Figure 3.1 Tuition Fee for Arts Program, University of Toronto, 1929-1989 Constant (1988) Dollars

Source Annual Calendars of the Faculty, University of Toronto (University Archives)
See Appendix Table A.1 for fees data.

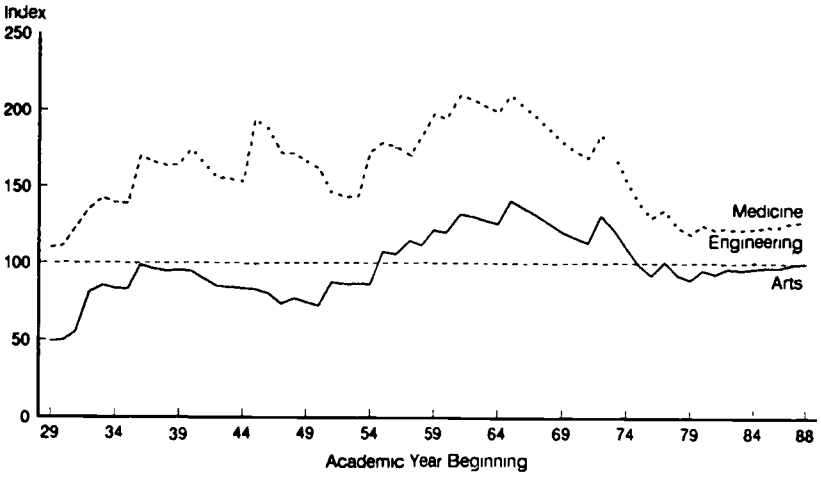

Figure 3.2 Tuition Fees for Arts, Engineering and Medicine, University of Toronto, 1929-1989 (Arts 1988=100)

Source Annual Calendars of the Faculties, University of Toronto (University Archives)
See Appendix Table A.1 for fees data

veteran.[2] Since this amount was equal to the tuition fee, it represented a *de facto* doubling of the actual tuition fee and made it almost impossible for the university to impose a general tuition fee increase.

From 1950 until 1965, tuition fees again doubled in real terms. But despite this sharp increase in fees, undergraduate enrolment rates also increased much more than during subsequent periods when the real value of fees was declining or stable. From Figure 4.2 in the following chapter, it can be seen that the university enrolment rate[3] in Ontario increased by fifty per cent during the 1950s and almost doubled during the 1960s.

From 1966 to 1979, fees declined in real terms by one-third; this occurred mainly because there was no change in the actual fees from 1965 until 1972, while increasing inflation diminished the real value of the fee. Following 1979, the fee remained virtually constant in real terms except for the 3 per cent that was added in 1987 in lieu of the academic ancillary fees.

Fee Differentials for Professional Programs Tuition fees for medicine, engineering, and most other professional programs have always been higher than for the arts and science programs. But these differentials have narrowed over time. To trace this change, the tuition fees for arts, medicine, and engineering at the University of Toronto, for the sixty years since 1929, have been shown in Figure 3.2 as an index (or percentage) of the fee for arts and science. Since the fees for medicine and engineering follow the same general pattern that was observed in Figure 3.1 for the arts fee, the important observations here are with respect to the fee differentials rather than their absolute levels.

Through the period from 1929 to 1965, the fee for engineering was substantially higher than the arts fee, by 30 per cent to more than 100 per cent. The engineering fee in 1929, for example, was more than double the arts fee; and in the 1950s, it was 30 to 50 per cent greater. Between 1965 and 1980, the differential narrowed steadily, from a difference of about $800 (in 1988 prices) to about $150. Through the 1980s, the differential has been only a little more than $100, or less than 10 per cent of the arts fee.

The fee for medicine was the same as the engineering fee through the 1930s, but then rose sharply during World War II. This much higher fee for medicine persisted until the mid-1960s. During the 1970s, the differential between medicine and engineering (and arts) was narrowing slightly, but was then reversed. Since 1982, the fee for medicine has been 27 per cent above the arts fee.

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[2] This grant was in addition to the tuition and incidental fees that the government paid to universities on behalf of the veterans.

[3] The enrolment rate is the actual enrolment as a percentage of the total population in the university-age group.

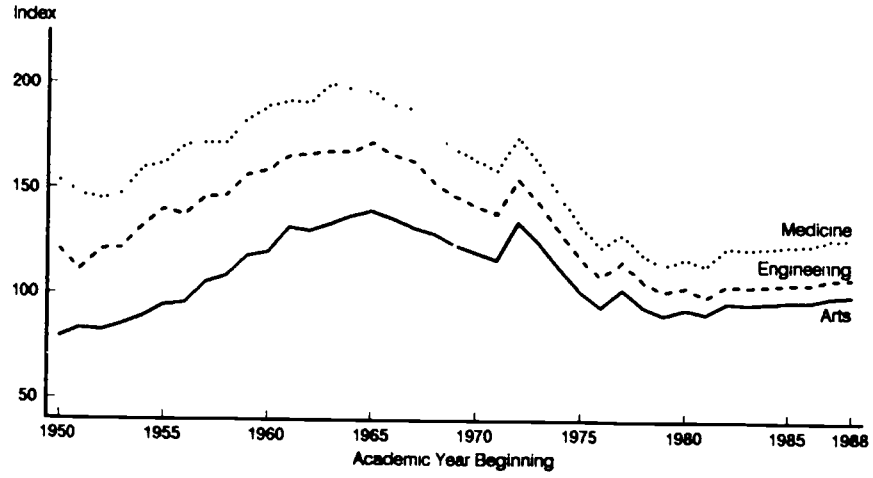

Figure 3.3 Average Tuition Fees for Arts, Engineering and Medicine for Five Ontario Universities*, 1950-1989 Indexed to 1988-89 Average Arts Tuition

* Average tuition for McMaster, Ottawa, Queen's, Toronto and Western

Source Annual calendars for each university
See Appendix Tables A.2, A.3, A.4 for fees data

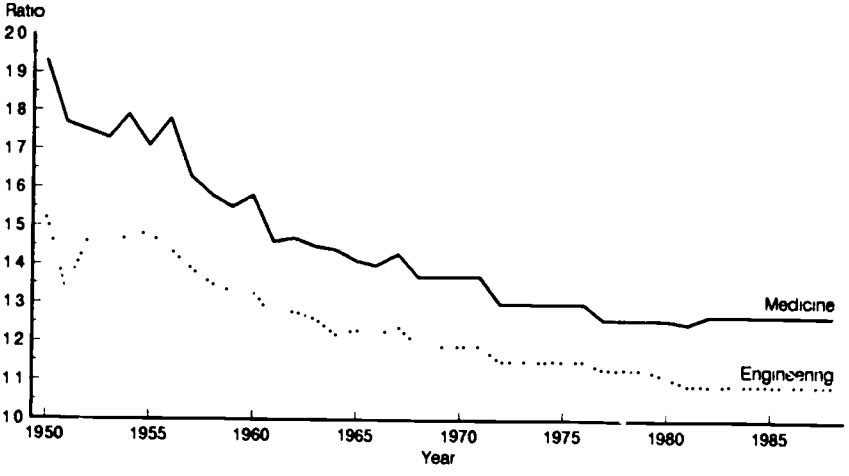

Figure 3.4 Ratio of Medicine and Engineering Tuition to Arts Tuition, Ontario Universities*, 1950-1989 (Arts Tuition = 1.00)

* Average tuition for McMaster Ottawa, Queen's, Toronto and Western

Source Annual calendars for each university
See Appendix Tables A 2, A 3, A 4 for fees data

Fees for the University of Toronto were shown in Figures 3.1 and 3.2 because data going back to 1929 were not readily available for the other universities. For the period since 1950, however, the unweighted average fees for five of the larger Ontario universities (McMaster, Ottawa, Queen's, Toronto, and Western) have been presented in Figure 3.3 to show that the pattern for this group is similar to the trends observed for Toronto alone.[4]

Not only are the long-term trends quite comparable, but the differentials for engineering and medicine are also similar. The average differentials between the engineering and medicine fees and the arts fee, in terms of the fee ratios, are presented in Figure 3.4. With the exception of three years in the mid-1950s, the fee differential for engineering diminished steadily from 50 per cent to about 10 per cent by 1982 and then has remained at that level. Similarly, the fee differential for medicine diminished steadily from about 90 per cent in 1950 to about 30 per cent in the late 1980s. The narrowing of the differential between the medicine or engineering fees and the arts fee that occurred during the 1970s was the result of the $100 increase in fees in 1972 and again in 1977. This flat-rate increase represented a lower percentage increase in the fees for professional programs than for the arts programs.

The Pre-Formula Fee Structure The variation among universities in the fees that were charged prior to the introduction of the grants formula is displayed in Table 3.1. The actual fee (in 1966 dollars) for arts and science at the large universities ranged from $450 at Ottawa to $500 at Queen's, with McMaster, Western, and Toronto charging $460 to $470. For engineering, the range was wider - between $545 at McMaster and $650 at Toronto, but the other universities tended toward the low end of this range. For medicine, there was a smaller range than in engineering - from $625 at Ottawa and Queen's to $700 at Toronto. Although the fee for law ranged between $425 at Ottawa and $550 at Toronto, there was only a $5 difference between the fees at Toronto and Osgoode (later York).

Whether the differences in fees between universities are considered large or small will depend on the perspective of each reader. A general puzzle, however, is why the higher fees for the arts programs were in effect at the newer and smaller universities. Undoubtedly, these institutions needed to maximize their revenues, and it would appear that they believed high fees would have a negligible effect on enrolment.

Triolithic Fee Structure A triolithic fee structure has evolved during the two decades since the grants formula was introduced. This triolithic structure - illustrated by Figure 3.5 - now combines most of the undergraduate university programs into three groups, with three related fees: medicine and dentistry at $1,794, or 27 per cent above the arts fee; engineering and

[4] An unweighted average is used because the intention is only to smooth the effect of any individual institution's irregular fee changes.

Table 3.1

Tuition Fees[1] at Ontario Universities, for Selected Programs, Prior to the Grants Formula (1966-67)

University	Arts and Science	Engineering	Medicine	Law
Brock	515	-	-	-
Carleton	529	589	-	-
Guelph	460	460	-	-
Lakehead	460	-	-	-
Laurentian	535	535	-	-
McMaster	460	545	-	-
Ottawa	450	550	625	425
Queen's	500	575	625	480
Toronto	470	650	700	490
Trent	550	-	-	-
Waterloo	510	585	-	-
WLU	520	-	-	-
Western	465	550	675	550
Windsor	519	604	-	-
York	550	-	-	485 [2]

1 Fees exclude ancillary fees, and are for an academic year of two terms or semesters. Where the fee differs by level within the undergraduate program, the lower, first-year fee is shown.

2 The fee shown is for Osgoode Hall Law School, which moved to York University in 1968.

Source: Queen's University Resources Planning Department (for fees at McMaster, Ottawa, Queen's, Toronto, Western) and Statistics Canada (D.B.S.) *Tuition and Living Costs at Canadian-Degree-Granting Universities and Colleges, 1966-67.*

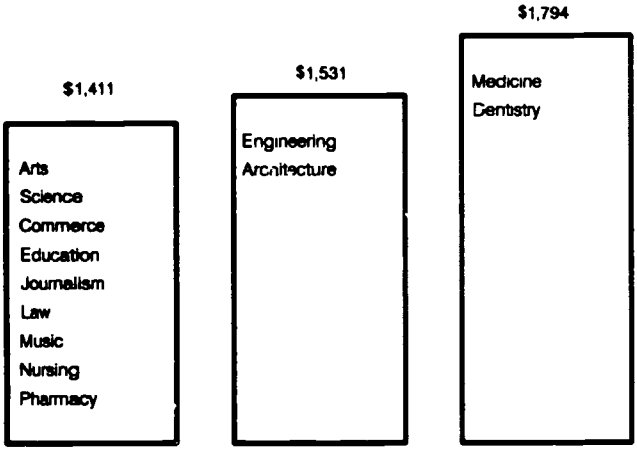

Figure 3.5 Fee Structure at Ontario Universities, 1988-89

Source Ministry of Colleges and Universities, *Ontario Operating Formula Manual, 1987*
Actual fees shown are 113 per cent of the formula fees

architecture at $1,531, or 9 per cent above the arts fee; and most other programs at $1,411.

Tuition Fees and Student Aid

Comparisons of trends in tuition fees with changes in student financial assistance ought to be quite relevant to a study of fees policy, if only because virtually every report that recommends increases in tuition fees also recommends a comparable increase in student aid. (Some of these reports are quoted later in Chapter 6.) Such comparisons are fraught with difficulty: the actual weighted average fee must be used, rather than a benchmark such as the arts and science fee, but this weighted average includes part-time, foreign, and graduate students who have differing access to the financial aid programs; and the financial aid data reflect changes in the composition of eligible students and in non-tuition fee costs, as well as changes in government policies on student aid.[5]

[5] Some comparisons of fees and student aid calculate a net fee by subtracting average aid from average fees but this is even more misleading, if only because it incorrectly suggests that the average student faces a discounted tuition fee.

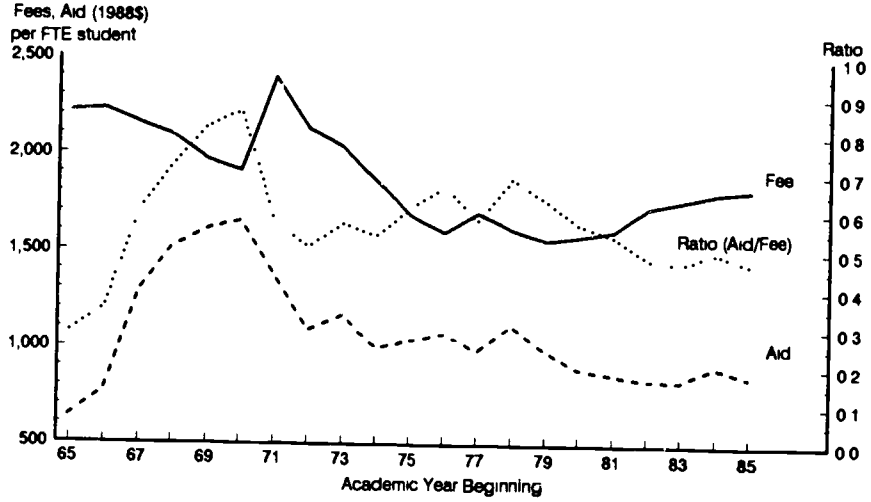

Figure 3.6 Ratio of Student Grants and Subsidies to Tuition Fee Revenues* (Including Incidental Fees), Ontario, 1965-1985

* Includes graduate and visa student fees

Source Vanderkamp (1988)

Nonetheless, a comparison of student aid expenditures and fee revenue as presented in Figure 3.6 can illustrate the general level of student aid - as provided in direct grants and the interest subsidies associated with student loans - as well as cyclical changes in the relative magnitudes of fees and aid. The ratio of aid to fees increased sharply from 1965 to 1970, following the introduction of the Canada Student Loan Plan (CSLP) in 1964 and the Ontario Student Awards Program (OSAP) in 1966. (The CSLP subsidized the interest payments on student loans until graduation, and the OSAP made grants to students from low-income families.)

An increase in the average fee in 1971, together with a drop in aid, caused a similar sharp decrease in the aid/fee ratio. But the ratio rose steadily from 1972 to 1977 during the period when tuition fees were frozen, and then declined in the late 1970s. Through the 1980s, the ratio of aid to fees has been roughly constant.

Tuition Fees and Operating Expenditures

Tuition fees can be compared in size with a variety of cost and expenditure aggregates, among which clear distinctions are not always made in policy discussions. In the following sections, the value of tuition fees is expressed as a percentage of some of these different concepts of 'total costs', as follows:

1. operating expenditure per student;
2. total operating revenue (excluding assisted research);
3. direct cost of instruction for separate programs of study;
4. students' direct expenditures for university education;
5. students' total cost for university education;
6. the economy's total cost per student.

Each of these approaches to measuring the cost or expenditure for university education provides a different answer to the question "What percentage of the cost of university education is represented by the tuition fee?"

Fees and Operating Expenditures per Student The preceding charts illustrated the cyclical pattern of real tuition fees during the past sixty years, and particularly the decline in fees during the 1970s and the plateau of the 1980s. Since one may think that a lower real fee meant that students were paying a lower share of the total cost - or were receiving the same service at a discounted price - it is necessary to trace the changes in total expenditures for a student's university education during this more recent period.

Since 1970, there has been a long-run decline in the universities' total expenditures per student. As Figure 3.7 indicates, tuition fee revenue per student has increased slightly during the past decade, while the total expenditure per student has declined. Consequently, the student's contribution to the operating expenditure has increased slightly.

Whether or not the declining expenditure per student represents a deterioration in the quality of university education is a matter that is given closer attention toward the end of the next chapter. But it should not be assumed that this represents economies of scale that result from expansion of the university system. Extensive studies have shown that growth in university enrolments results in a wider range of course and program offerings, and more sections of individual courses, rather than a lower cost per student. The observed cost reductions are therefore likely associated with other changes that may indeed reflect lower quality of the instructional resources.

Fee Revenue and Total Operating Revenue One of the most common comparisons with respect to trends in tuition fees is one that relates fee revenue to the universities' total operating revenue. Figure 3.8 shows that revenue from tuition fees provided 35 per cent of the total operating revenue for Ontario universities in 1951, but that this share had dropped to 23 per cent when the grants formula was introduced in 1967. The contribution from fees fell to its lowest point, 15 per cent, in the mid-1970s; this has since risen to

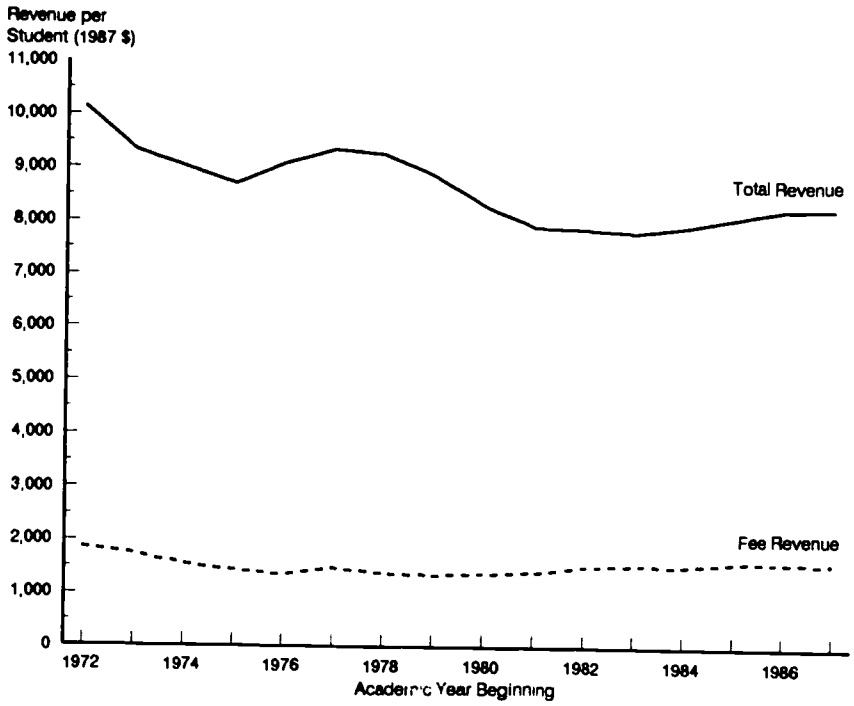

Figure 3.7 Operating Revenue and Fee Revenue per Student (FTE) for Ontario Universities, Constant (1987) Dollars, 1972-1987

Source Council of Finance Officers - Universities of Ontario, *Financial Reports.*

about 18 per cent. But Figure 3.8 is included in this series primarily so that attention can be drawn to the hazards inherent in this comparison.

When the intent is to show the percentage of the instructional cost for an individual student that is covered by the tuition fee, the calculation represented by Figure 3.8 can be misleading for several reasons. First, fee revenues include fees for all student categories, including visa students and graduate students. In fact, most of the increasing proportion of operating revenue that is represented by tuition fees in recent years is due to a proportionately greater increase in the number of visa students than in resident undergraduate students.[6]

The total operating revenue will also fluctuate with changes in government funding for particular purposes that may have little relationship with the cost of undergraduate instruction. Similarly, if the government contributions for

[6] Approximately two-thirds of the increase in the fees component of total revenue is attributable to the visa student fees.

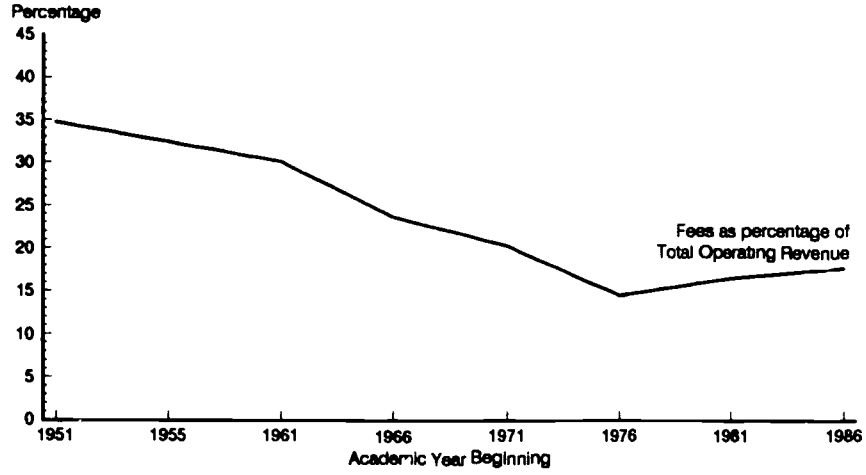

Figure 3.8 Tuition Fee Revenue as a Percentage of Total Operating Revenue, (Excluding Assisted Research), Ontario Universities, 1951-1986

Source Statistics Canada, *Financial Statistics of Education.*
CAUBO, *Financial Statistics of Universities and Colleges.*

general operations decline, there will be an increase in fee revenues as a percentage of the total income even if there is no increase in the fees charged. Finally, since fee revenues depend on both the tuition fee level and the number of students enrolled, an increasing percentage of total revenue from fees may reflect an increase in enrolments with a less than proportionate increase in grants. In none of these cases does a change in the proportion of total revenue contributed by the fee revenue necessarily indicate that there has been a change in the share of a student's instructional costs that are covered by the tuition fee.

Fees as a Proportion of Program Costs Although data are not available that show the universities' actual cost of instruction per student, either by program or by university, one can approximate this cost. The value of the tuition fee plus the government's grant based on the program weights provides an implicit program cost per student. Although it is sometimes argued that the formula weights are not intended to influence internal allocations and actual program costs, it is generally recognized that the weights were not arbitrarily assigned but were drawn from actual cost data. In the early 1980s, the OCUA confirmed that the formula weights continued to bear a reasonable relationship to the relative program costs:

> In Council's opinion - although there may be some discrepancies between existing relative weights and relative costs - in the main 'rough justice' is being done in terms of these relationships (OCUA, 1983:155).

Table 3.2

Tuition Fees Compared with Implicit Program Costs, 1988-89

Program of Study[1]	Formula Weight	Formula Fee[2]	Actual Fee[3]	Implicit Program Cost[4]	Actual Fee as per cent of Program Cost
Group 1	1.0	1,249	1,411	5,277	26.7
Group 2	1.5	1,249	1,411	7,210	19.6
Group 3	2.0	1,249	1,411	9,143	15.1
Group 4	2.0	1,355	1,531	9,263	16.5
Group 5	5.0	1,588	1,794	21,124	8.5

1 Programs of study are grouped according to formula weight and fee as follows:

Group 1: General arts and science, journalism
Group 2: Honours arts, rehabilitation medicine, library science, physical education, fine arts, commerce and business, law
Group 3: Honours science, forestry, music, pharmacy, agriculture, education, nursing
Group 4: Engineering, architecture, optometry
Group 5: Medicine, dentistry

2 The formula fee is the current value of the standard tuition fee that was set for the Ontario university system in 1977.

3 Since 1987, the universities have been permitted to charge a tuition fee that is 13 per cent greater than the formula fee. From 1980 to 1987, the actual fee was 10 per cent greater than the formula fee.

4 The implicit program cost consists of the government's total grant (per basic income unit multiplied by the program weight), plus the actual tuition fee. This omits approximately 5 per cent of total revenue that is received from other sources, excluding sponsored research.

Source: Ministry of Colleges and Universities. *The Ontario Operating Funds Distribution Manual*, 1989.

While the allocation of resources among programs may vary across universities, the average program cost for the university system has sufficient reliability and relevance for this calculation. Furthermore, it does represent the actual cost to the government (and to the economy) for each student in a given program in the Ontario system. The calculations in Table 3.2 show a wide range in the proportion of total program costs that was represented by the tuition fee in 1988-89. The fee for general arts and science and journalism was 27 per cent of the program cost; the fee for honours arts, commerce, and law covered about 20 per cent of the program cost, while the fee for programs such as science, pharmacy, engineering and architecture covered 15 or 16 per cent of the cost. But the fee for medicine and dentistry represented less than 9 per cent of the cost.

Tuition Fees Across Canada

The preceding section has traced the trends in fees for Ontario alone; comparisons are now made with the trends in other regions of Canada.

Tuition Fees in Other Regions The regional structure of tuition fees for Canadian universities has changed very little since the mid-1960s, and likely not since their postwar development. (The earliest year for which Statistics Canada collected comparable fee data was 1966-67.) Fees in the Atlantic provinces have generally been at the highest level in Canada, with Ontario fees in a mid-range position, and fees in the western provinces being much below this level. Although the freeze on tuition fees in Quebec dates from 1968, there had been little change in fees since 1965 when they were comparable to those in Ontario and the Atlantic provinces.

Changes in the tuition fees for the undergraduate arts program at selected larger universities in each region are shown in Figure 3.9. The fee at Dalhousie (Nova Scotia) was quite close to Toronto's fee until the late 1970s. Since that time, Dalhousie's fee has had a greater increase, and is now about 25 per cent above the Toronto (or Ontario) level. The fees in the Universities of Saskatchewan and Alberta were much below the Toronto fee (by about 35 per cent) until the mid-1970s. Since then Saskatchewan's fee has increased more quickly than Toronto's fee (by 160 per cent compared with only 80 per cent for Toronto), so that the current differential is less than 10 per cent. But the fee in Alberta has risen more gradually than at Saskatchewan - by 120 per cent - but again, more quickly than at Toronto.

Changes in tuition fees have been more irregular in British Columbia. The arts fee at the University of British Columbia actually declined during the decade of 1966 to 1975, then increased at only a slightly greater rate than in Ontario until 1980. But the UBC fee then increased at a greater rate than in any other region, more than doubling during the early 1980s. Throughout this period - 1968 to 1989 - fees at the Quebec universities were frozen. There have been recent proposals, however, to raise the fees in Quebec to approximately the average of fees in the other provinces (Conseil des universités, 1988).

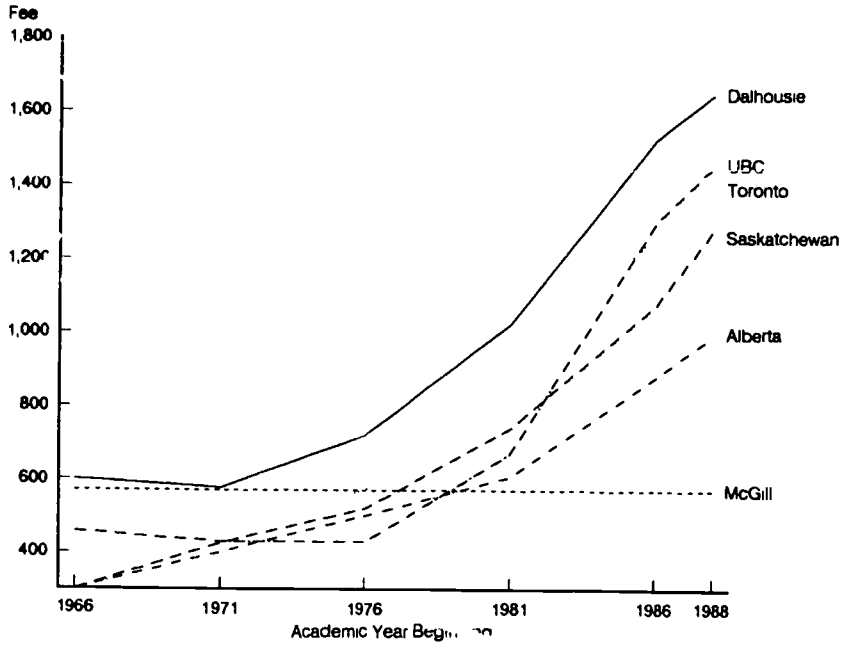

Figure 3.9 Tuition Fee for Undergraduate Arts Program, (Current Dollars) Selected Canadian Universities, 1966-1988

Source Statistics Canada, *Tuition and Living Costs at Canadian-Degree-Granting Universities and Colleges* (81-219), annual

These diverse changes have widened the national structure of tuition fees, such that the fee for arts programs in Nova Scotia and New Brunswick is now about three times the fee level in Quebec, about double the level of fees in Alberta, and 25 to 30 per cent above the level in Ontario.

Tuition Fees as Share of Total Revenue in Other Regions Trends in fee revenue as a percentage of total revenue for the regions of Canada are displayed in Figure 3.10 in order to emphasize the similarities and differences between the regions.

The long-run decline in the contribution of fee revenue to universities' total operating revenue is common to all regions. Fees represented 30 to 40 per cent of universities' revenue (excluding assisted research) in the 1950s, this dropped to 10 to 15 per cent by the mid-1970s. Since then, the trends have diverged, with a continuing decline in Quebec and a slight increase elsewhere. But this increased share - especially in Ontario - may be explained by an increasing proportion of the fees revenue coming from foreign students who pay much higher tuition fees.

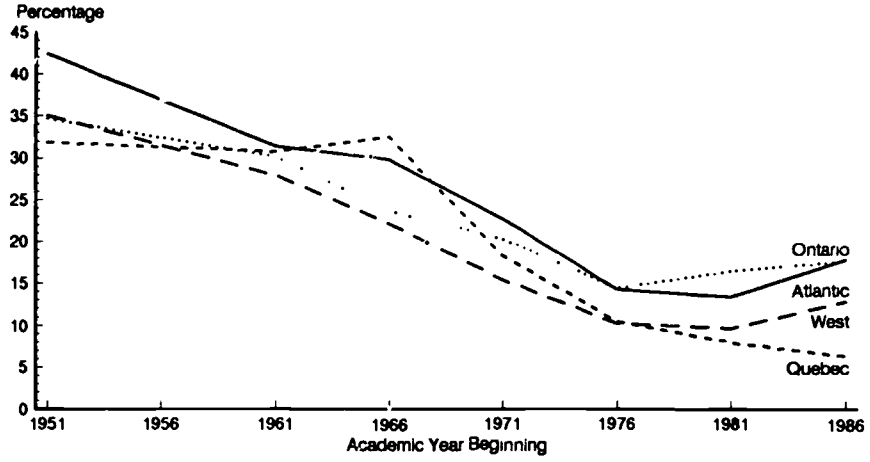

Figure 3.10 Tuition Fee Revenue as a Percentage of Total Operating Revenue (Excluding Assisted Research) in Canadian Universities, by Region, 1951-1966

Sources Statistics Canada, *Financial Statistics of Education*
CAUBO, *Financial Statistics of Universities and Colleges*

Tuition Fees in the United States

Tuition fees at American universities show an even wider variation than the comparison of fees among the regions of Canada - from $1,000 at the California state universities to $17,000 at Harvard University (in 1987-88 and in terms of Canadian dollars). A more appropriate group of institutions for comparison with Ontario universities, however, is the publicly-supported research universities, particularly those in the east North Central region of the United States. This group includes the Universities of Illinois, Indiana, Michigan, Ohio, and Wisconsin.[7]

The tuition fee for arts and science (plus other required fees) in Ontario was at about the same level in 1972-73 as the average undergraduate fee at the public research universities in the east North Central region (Wittstruck and Bragg, 1988); each fee was approximately $660. The average undergraduate fee at public research universities in all of the states was $549. (It is also convenient for this comparison that the average foreign exchange rate for 1973 put the Canadian and American dollars at par.)

[7] This group also includes five of the eight institutions that were selected for comparison with the University of Toronto in a recent analysis of university financing (COU, 1988a).

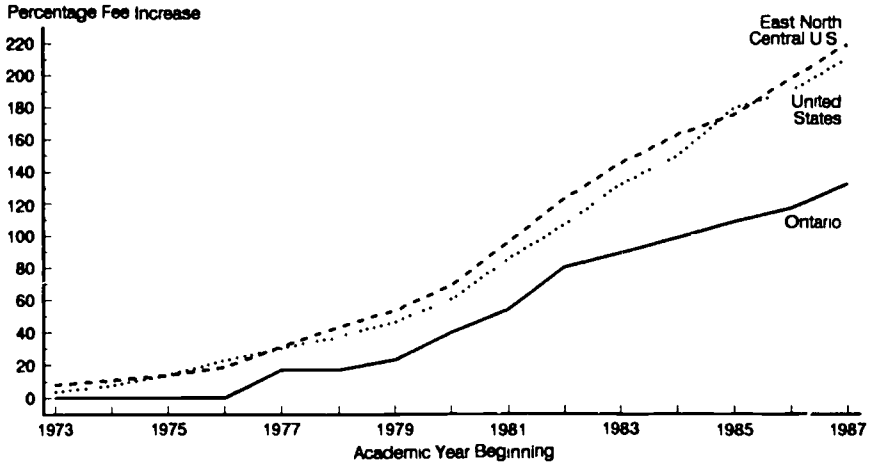

Figure 3.11 Cumulative Percentage Increase in Undergraduate Tuition Fees at Public Research Universities in the United States and at Universities in Ontario, 1973-1987

Source Wittstruck and Bragg (1988) for U.S. data, Table A.2 for Ontario data.

Since that time, however, fees at the major American public universities have increased considerably more than in Ontario. As illustrated in Figure 3.11, the average tuition fee for resident undergraduates in the east North Central region rose by almost 220 per cent between 1972 and 1987 and by 210 per cent for the entire United States. (Any additional fee for out-of-state students is excluded.) During the same period, fees in Ontario rose by 132 per cent, or by only three-fifths of the increase in the American universities. This difference is even greater when one takes inflation and the foreign exchange rate into account. Inflation in the United States for the 1973 to 1988 period was 172 per cent; in Canada it was 202 per cent. Moreover, the value of the Canadian dollar fell from U.S. $1.00 in 1973 to a range of $0.70 to $0.80 in the latter part of the period. Although exact comparisons based on these inflation and foreign exchange rate adjustments are not possible because other economic differences must also be considered, such adjustments would create an even greater gap between fees in the United States and Ontario than is represented in Figure 3.11 by the comparison of cumulative percentage increases.[8]

[8] For a concise explanation of these difficulties in international currency comparisons, and of the purchasing-power-parity technique for converting currency values, see Johnstone (1986).

Students' Expenditures and Costs

Tuition Fees and Students' Expenditures Of all the expenses a university student incurs for an undergraduate program, the tuition fee has received the greatest public attention. Yet the fee represents a minor share of the student's total expenditures. Table 3.3 shows that the tuition fee represented about 22 per cent of an average undergraduate's total expenditures incurred in 1988-89. The major expenditure - for food and housing - was three times the amount of the tuition fee; two other items - academic supplies and transportation - together were equal to about 80 per cent of the tuition fee.

The tuition fee as a percentage of the student's total expenditure has varied only slightly during the past two decades. The fee was about 28 per cent of total expenditures in 1973, then declined to 20 per cent in 1979, and has slowly increased again to reach 22 per cent in 1989.

Tuition Fees and Students' Total Costs In analyzing the economics of undergraduate education, however, one must distinguish between expenditures and costs. While food and housing require direct expenditures that must be paid from the student's financial resources, the full amount of these expenditures cannot be included as the cost of education because living costs must be incurred whatever one does. Only the extent to which expenditures

Table 3.3

Direct Expenditures by University Undergraduates, Ontario, 1988-89

Item	Average Expenditure[1]	Per cent of Total
Tuition fee (Arts and Science)	1,411	22.1
Other fees, books, supplies	532	8.3
Transportation	597	9.4
Food and housing	3,843	60.2
Total	6,383	100.0

1 Average expenditures in 1983-84, adjusted for inflation to 1988-89. Data are from the Statistics Canada 1983-84 National Post-Secondary Student Survey.

for room and board exceed the amount that would have been spent if one were in the labour force can be regarded as a cost attributable to the educational program. The same distinction must be made for transportation, clothing, and other expenditures that are related to routine personal care and activities.

More importantly, the major personal cost involved in full-time study is the cost of earnings that are forgone, to the extent that one would have been in paid employment otherwise. Some readers may question whether students do regard forgone earnings as a cost of their education, and whether they take this cost into account when deciding whether to enrol in a university program. There is evidence that students do indeed consider forgone earnings in their educational plans and have accurate estimates of the value of these earnings (Freeman, 1971).

Table 3.4

Private Costs per Academic Year, for Selected University Programs, Ontario, 1988-89

Program	Tuition Fee	Books, Supplies, Other Expenses[1]	Mean Forgone Earnings[2]	Mean Annual Costs	Fee as per cent of Total
Arts and Science	1,411	1,130	6,500	9,041	15.6
Engineering	1,531	1,200	6,500	9,231	16.6
Architecture	1,531	1,400	7,300	10,231	15.0
Law	1,411	1,200	8,300	10,911	12 9
Medicine	1,794	1,600	8,400	11,794	15.2
Dentistry	1,794	2,300	8,400	12,994	13.8

1 Includes incidental fees. Cost differences between programs reflect differences for books and equipment, as shown in annual faculty calendars

2 Data are based on 1985 after-tax earnings of high school graduates aged 19 to 25, from Census of Canada, 1986, and adjusted for wage inflation to 1988. Net forgone earnings for females are about 75 to 80 per cent of those for males. Forgone earnings are larger in the longer programs, reflecting the higher earnings associated with higher ages.

The importance or weight attached to this cost by different students depends on several other factors, just as there are differences among students in their reactions to differences in other costs and benefits of education. For example, students whose parents are in high-income, professional occupations may be under considerable family and other social pressure to go to university; for them, the possibility of entering the labour force after high school is only a remote alternative. Conversely, students from lower-income families - even if they feel the same pressures to continue their education - are likely more sensitive to the potential purchasing-power they forgo by choosing to go to university. But whether or not forgone earnings should be discounted - either for all students or to different degrees for different groups of students - when this cost component is included with other direct expenditures, the amount remains a large proportion of the students' total cost.

The value of forgone earnings differs among students since employment opportunities, especially for young high school graduates, differ by ability, region, gender, and other factors (Crary and Leslie, 1978). These differences are reflected, however, in the average earnings for all young high school graduates that are obtained from the population census. Estimates of such forgone earnings are based on the average after-tax earnings for high school graduates (aged 18 to 24), which are then adjusted for summer or part-time employment earnings and for other income from bursaries or scholarships.

The total private costs for university education therefore include the direct expenditures for tuition fees, books, supplies, and other academic items, plus the indirect cost of net forgone earnings. Private costs per academic year are shown for selected programs in Table 3.4. The tuition fee represented between 13 and 17 per cent of a student's total cost in 1988-89; for Arts and Science students, the tuition fee represented, on average, 15.6 per cent of their total cost. By contrast, the tuition fee in Arts and Science in 1960 was 21.3 per cent of the students' total cost (Stager, 1968).

Total Cost of University Education

Finally, the tuition fee can be put into its most comprehensive economic perspective when all of the costs of a university program - both private and public - have been identified and estimated. The private costs are those that were included in Table 3.4; namely, the students' direct expenditures for tuition fees and other academic items and the indirect costs of forgone earnings. The public costs include the direct expenditures represented by the government's formula grants. But there are also indirect costs that must be imputed; these are the depreciation and forgone interest, associated with the universities' plant and equipment, that are included to represent the capital expenditures for construction and equipping of the instructional facilities. In addition, there are the tax revenues forgone by various levels of government as a result of universities' exemption from certain taxes. (Government grants to students are not included in this total because they represent a reallocation of the cost from the private to the public share, not an increase in the total cost.)

Table 3.5

Total Costs per Academic Year, for Selected University Programs, Ontario, 1988-89

Program	Students' Costs			Public Costs		Mean Annual Total	Fee as per cent of Total
	Direct		Indirect [2]				
	Fee	Other [1]		Direct [3]	Indirect [4]		
Arts and Science	1,411	1,130	6,500	5,103 [6]	3,908	18,052	7.8
Law	1,411	1,200	8,300	5,799	4,326	21,036	6.7
Engineering	1,531	1,200	6,500	7,732	5,578	22,541	6.8
Architecture	1,531	1,400	7,300	7,732	5,578	23,541	6.5
Medicine [5]	1,794	1,600	8,400	19,330	12,674	43,798	4.1
Dentistry [5]	1,794	2,800	8,400	19,330	12,674	44,998	4.0

1 Includes books, supplies, and transportation (from Table 3.4).

2 Mean annual net forgone earnings for males (from Table 3.4)

3 Government total grant per basic income unit, multiplied by program weight (from Table 3.2).

4 Indirect costs (depreciation, forgone interest, forgone taxes) are estimated as 60 per cent of the direct costs (Stager, 1968).

5 Mean annual costs for Medicine and Dentistry are based on costs for 2 years of Arts and Science and 4 years of Medicine or Dentistry.

6 Weighted average for Arts and Science (from Ministry of Colleges and Universities, Student Awards Branch).

When all of the costs associated with university programs are included, as shown in Table 3.5, the amount represented by the tuition fee becomes a very minor part of these costs - ranging between 7.8 per cent for arts and science to 4.0 per cent of the total cost for medicine and dentistry.

Tuition Fees and Family Income

A family's income is a major factor (together with the number of dependents and other obligations) that determines the family's ability to contribute to the financing of a student's undergraduate education. When data on family incomes and tuition fees or other academic costs are compared, a common mistake is to use the average income for all families, regardless of the parents' age.[9] But the parents of most undergraduate university students are in the 40 to 60 years age range; indeed, most are within the 45-54 year bracket. Consequently, it is the average income for families whose head is within this range that provides the relevant comparison.

While the mean income for Ontario families where the parents are aged 45-54 years *increased* by more than 36 per cent in real terms between 1971 and 1986, the tuition fee for arts and science *decreased* by more than 25 per cent (see Table 3.6.). Consequently, the percentage of family income that is equivalent to the tuition fee declined from 4.0 per cent to 2.5 per cent.

Concluding Observations

Taken in its entirety, this chapter provides more than a mere set of statistical facts. Rather, it allows some fundamental observations to be made about tuition fees at Ontario universities during the past half-century, and particularly during the past two decades when the provincial government has effectively controlled the level of fees and total expenditure for undergraduate education.

It is often asserted that tuition fees have never been lower, after taking into account the dollar's diminishing purchasing power. On the contrary, however, the fee for undergraduate arts programs in 1988-89 was equal to the fee that prevailed in the mid-1970s, the mid-1950s, and the mid-1930s. Although the fee fluctuated during the intervening years, it has remained fairly stable during the past decade. But the once-substantial differences between fees in arts, engineering, and medicine have narrowed considerably, with the result that the fee for medicine is indeed lower than it has been since 1930, and for engineering since 1950.

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[9] The problem is less serious if one is measuring the rate of change over time rather than the absolute level at a given time. In a review of nine alternative definitions of 'family income' as a measure of ability to pay, Halstead (1989) found that the 10-year increases (1970 to 1980) ranged from 99 per cent to 145 per cent.

Table 3.6

Tuition Fees Compared with Average Family Income, for Family Head Aged 45-54 Years, Ontario, Selected Years, 1971 to 1986

Year	Mean Family Income (1986 dollars)	Index	Tuition Fee[1] Arts and Science (1986 dollars)	Fee as per cent of Family Income
1971	40,890	100.0	1,642	4.0
1975	49,454	120.9	1,430	2.9
1981	51,521	126.0	1,286	2.5
1984	51,015	124.8	1,358	2.7
1985	53,143	130 0	1,373	2.6
1986	55,832	136.5	1,373	2.5

1 Average fee for McMaster, Ottawa, Queen's, Toronto, Western.

Source: Ontario Ministry of Treasury and Economics. Office of Economic Policy (special tabulations).

The absolute level of the tuition fee has little meaning, however, when viewed in isolation. If the objective is to evaluate or develop an appropriate policy on fees, expenditures for student aid should also be considered in order to calculate a net fee. Although the available data are somewhat too aggregative for detailed comparisons, it appears that a rapid increase in financial assistance during the late 1960s resulted in a low net fee through the 1970s; this effect has gradually been reversed in the 1980s.

Reference is also made on occasion to the percentage that fees contribute to the universities' total income. It is arguable whether fees should be compared with a measure of universities' income that includes, or excludes, the revenue for sponsored research. Either approach, however, shows a long-run decline from the early 1950s to the mid-1970s in the ratio of the tuition fee to total revenue per student. There has been a modest increase since then, with the fee now contributing between one-fifth and one-sixth of the universities' revenue per student. This recent increase in the share of revenue coming from fees has occurred, however, not because the fee has increased, but because a decrease in government funding has caused the total revenue per student to decline.

Tuition fees at Ontario universities have risen since the early 1970s at approximately the same rate as fees in other provinces (with the exception of Quebec). But the increase in Ontario's fees has been little more than half of the increase in fees at comparable public universities in the United States. The result is that the real value of the tuition fee has declined in Ontario while it has risen in the United States.

The political attention given to tuition fees obscures the greater magnitude of other costs in the student's total budget. Fees represent, on average, about 25 per cent of the student's total out-of-pocket expenditures, but about 15 per cent of a student's total economic cost - which includes net forgone earnings. Exact measures of a student's 'ability to pay', for comparison with changes in tuition fees, require that a family's financial circumstances be expressed by more than a single financial statistic. Nonetheless, it is evident from the available data that real family incomes have increased during the past two decades while the real tuition fee has declined.

These several comparisons of tuition fees with related cost, expenditure, and income aggregates are summarized in Table 3.7. Each of the comparisons has its specific purpose, but each presents a different perspective on the current magnitude of tuition fees in Ontario universities. Reference will be made to these alternative measures again in succeeding chapters to show their relationship with alternative policies for the public/private share in the financing of university education.

Table 3.7

Tuition Fees Compared with Selected Cost, Expenditure, and Income Totals, Ontario, 1988-89

Total	Tuition Fees as a percentage of Total [1]
University operating expenditure per FTE student (1987-88)	18.0
Implicit direct costs for instruction	
Honours Arts	19.6
Medicine	8.5
Students' direct expenditures	
Arts and Science	22.1
Students' direct and indirect costs	
Arts and Science	15.6
Economy's total costs	
Arts and Science	7.8
Medicine	4.0
Family income (45-54 year-old head) 1986	2 5

1 Data are drawn from preceding Figures and Tables in this chapter.

Chapter 4

Accessibility and the Demand for University Education

The Ontario government's policy on accessibility states that:

> a place in some program at some Ontario university, but not necessarily the program or university of first choice, will be provided for every academically qualified student who wishes to pursue university studies (Ontario CFRUO, 1981:11).

Each of the other provinces has recently confirmed that there is a similar policy on accessibility across the country.[1] In each case, with only slight variation in the wording, the policy is to ensure that any student who meets the minimum standard for admission to university will be assured a place, but not necessarily in the program or university of first choice. Since the provinces have defined this policy on a province-wide basis, while individual universities have retained control of admissions, the implication is that the province will assist the universities to create additional capacity should the number of qualified students exceed the existing space in the university system.[2]

Much of the recent emphasis in accessibility policy is on accessibility for minority groups: francophones, northern residents, native peoples, women, part-time students, and disabled persons. Specific programs or incentives are required for each of these groups.

Viewed from this broader perspective, accessibility is not so much a singular policy as it is a collection of socio-economic objectives that similarly require a collection of public policies. A policy on university tuition fees is only one of these, and indeed it will be seen later in the chapter that it may have only a small impact on this broad set of objectives.

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[1] The correspondence was with the government department responsible for postsecondary education in each province.

[2] There are also certain exceptions to this general policy. In the Maritime provinces, for example, an interprovincial agreement determines the minimum number of places available in the health sciences programs for students in each province.

What is Accessibility?

From Opportunity to Accessibility Accessibility to postsecondary education can have various meanings. In the 1950s and early 1960s, prior to the current accessibility policy, the stated goal was to achieve an equality of educational opportunity; expressed differently, the objective was that every person should have an opportunity to develop his or her intellectual ability to the fullest extent. This goal - sometimes interpreted in a more interventionist or proactive sense to mean that everyone who is academically qualified *ought* to use this opportunity - was inherent in the 'pool of ability' approach to educational planning. The implied wastage of potential resources, if able students did not continue their education, was based not only on a collective concern for the potential welfare of individual members of society, but also on the development of human resources as a fundamental requirement for high rates of economic growth that would benefit society in general.

From the perspective of the 1980s, it has been argued that this approach to accessibility reflected and reinforced the utilitarian ideology of Canadian society in the 1950s:

> In a society so conscious of the importance of education to the country's economic future, it was considered vital for schools to encourage students both to continue their education for as long as possible and to perform at the highest possible level of achievement...In order to search out the competent from all social classes, commentators talked increasingly of the need to improve the ability of lower-income families to send their children to university (Axelrod, 1982:30).

This perspective was followed by a *laissez-faire* view reflected in the 'social demand' approach to educational planning. It simply responded on the supply side to what was actually a private demand. These two approaches can be characterized as 'promoting' versus 'accommodating'. A still more recent concept has been that students of equal ability should have an equal *choice* of career paths, and that governments have an obligation to ensure that there is not only choice, but equality in the perception as well as the reality of the choice. But it remains ambiguous whether governments are expected to go further in actually influencing a student's choice.

The accessibility policy of the mid-1960s was based primarily on the assumption that a government's role was to assure an adequate number of places in postsecondary education for the rapid growth in demand resulting from the postwar baby-boom, increasing family incomes, and the expectation of higher earnings for graduates. This assumption was an obvious corollary of the government's virtual monopoly on the supply of postsecondary educational institutions that arose as a result of the major expansion of public funding for universities, and government control of degree-granting authority. The concern that students with the appropriate levels of academic ability, but

without financial means, should not be barred from further education constituted a supply-side issue because the government both effectively set the price (tuition fee) and established the quantity of places in the system.

Accessibility policy now appears to have two distinct branches or components that can be described as 'expansion' and 'equalization'. The continuing emphasis from the 1960s has been to expand - or at least to maintain - the capacity of the university system to accommodate those who wish to attend. More recently, the equalization of accessibility has been emphasized, but with some uncertainty about priorities among the target groups and how progress in this direction should be measured.

Access To What? The emphasis on the provision of places was based on the 'Robbins principle' that guided higher education planning through the unprecedented growth of the 1960s.[3] This principle was that:

> ...courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so. *What type of education* they should get and in *what kind of institution* are questions we consider later on; and the *criterion by which capacity is to be judged* is clearly a question on which there may be a variety of opinions. But on the general principle as we have stated it we hope there will be little dispute (UK, 1963:8. Emphasis added).

While Robbins' general principle has been widely accepted, the issues it raised in terms of the type of programs and institutions that should be provided, and the admission criteria - which largely determine the quality of what is offered - have continued to raise the question, "Access to what?".

It is also increasingly recognized that the private demand for higher education is not autonomous, and that it can be influenced by public policy. That is, the demand for higher education depends in part on what kind of higher education is offered, and on what terms (Fulton, 1981). One can see this especially in the high enrolment rates in community colleges in Ontario soon after their introduction in the late 1960s. It might be argued that the Ontario government simply responded to a latent demand for community college education in the 1960s. But this is only a partial explanation since the government deliberately created a special-purpose type of postsecondary institution that is different from the community colleges in other provinces and states. Demand for higher education may also be influenced through policies that affect the staffing of secondary schools and the labour markets for postsecondary graduates in general.

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[3] Lord Robbins chaired the Committee on Higher Education in the United Kingdom whose *Report* in 1963 strongly influenced public policy on higher education in the Commonwealth countries and the United States.

Access to Education? Or To Employment? Equality of *educational* opportunity may be treated as an end in itself. But it may also be seen as a means to a further objective, namely, the equality of *employment* opportunity, and particularly the opportunity to enter occupations with higher earnings and social status. In this sense, accessibility remains a major social goal, but is recognized as an intermediate step toward achieving other objectives. These ultimate objectives are concerned with improving the allocation of resources and distribution of real income, as well as providing the opportunity for individual development.

Can Equality Be Measured? The provincial policy emphasizes not just accessibility, but *equality* of accessibility "across all social and economic groups in the province" (Ontario CFRUO, 1981). Equality of accessibility in this context is ambiguous, and therefore virtually impossible to measure. It is not clear whether the intent of the policy is to provide an equal choice for all groups, or to ensure that all groups should actually participate in equal proportions in the university system. One could never determine whether any student was facing the same combination of circumstances faced by other students, with respect to the availability of educational opportunities. Moreover, is it reasonable to assume that all persons in similar circumstances could be expected to make the same choice? To assume this is to deny the reality of individual differences in preferences and expectations.

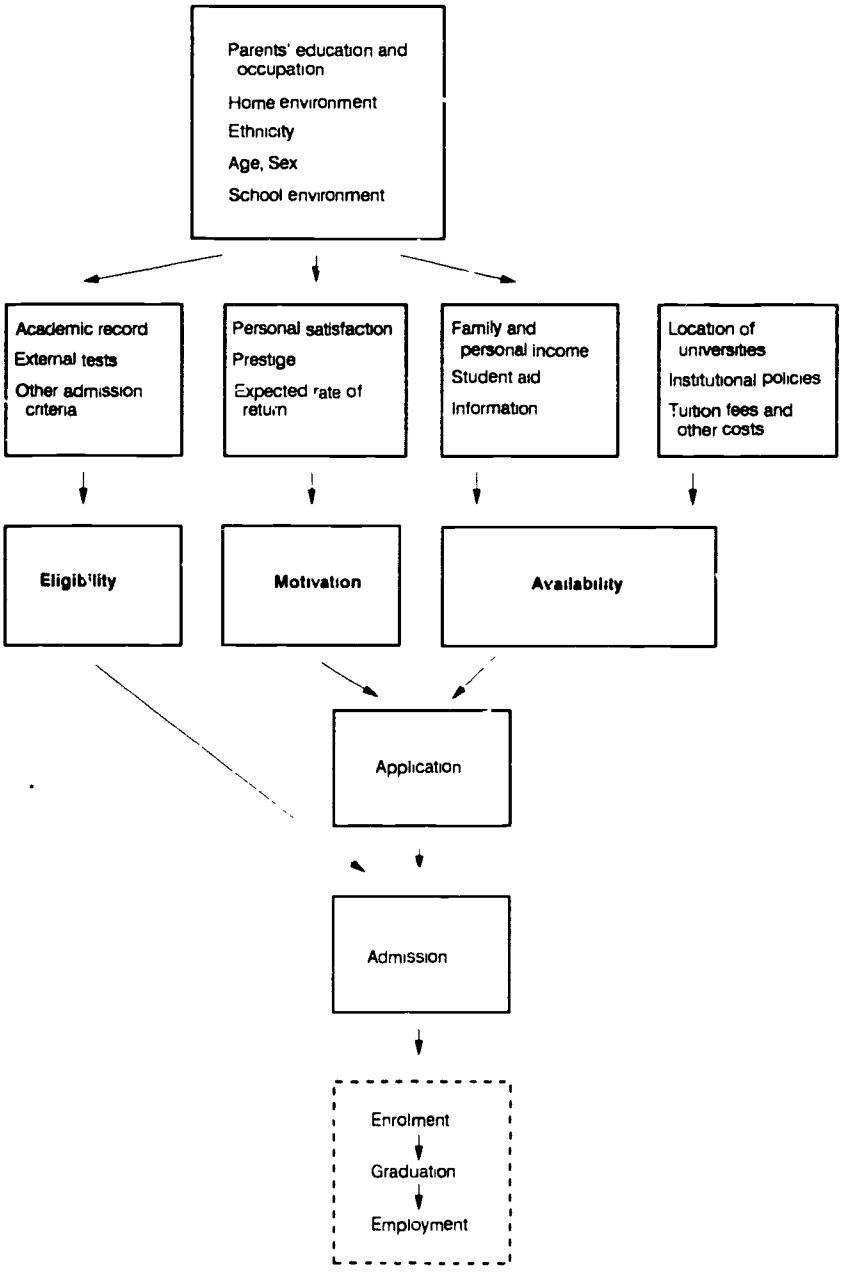
Accessibility is generally defined and measured in terms of the choice actually made; that is, in terms of a student's participation in university education. Participation rates compare the number of persons in a specific group (university students) with the total population in the category being studied. For example, one could examine the rate of participation in university education by individuals according to age, gender, religion, language, parental education, ethnic origin, or size of community.

But what have sometimes been described as changes in accessibility are simply changes in the ratio of the total university enrolment to the total population in the university-age group (generally 18-24 years). Although this is sometimes referred to as the participation rate, it should be termed the enrolment rate.[4] In a later part of this chapter, changes in the enrolment rate for Ontario university undergraduates are examined, and it is seen that these rates have little relationship with the level of tuition fees, and only an indirect relationship with accessibility.

Factors Influencing Accessibility The following sections deal with many of the factors bearing on the decision to enrol in university. Figure 4.1 illustrates the interaction of factors that influence accessibility to university education. These can be conveniently categorized - both for analysis and for policy development - as eligibility, motivation, and availability. The

[4] The several problems inherent in treating the enrolment rate as a participation rate are described by Vanderkamp (1984).

Figure 4.1
Factors Influencing Accessibility to and Demand for University Education



educational opportunity may be available in a physical and financial sense, but a student must also meet eligibility criteria and have the motivation or desire to apply for admission to university.

At the bottom of Figure 4.1 is a broken-line box enclosing the further stages from admission to employment. This is a reminder that realizing the advantage of the educational opportunity is not limited to admissibility. Rather, students must follow through to graduation and employment. These further stages are influenced by some of the same factors that affect motivation. For example, it has been found that most young people who do not attend university would be very unlikely to obtain degrees if they were to attend, because the social and financial difficulties that reduce their probability of applying also limit their probability of graduating (Manski and Wise, 1983). This problem of attrition, following admission to the postsecondary system, requires that an evaluation of accessibility policies should include an examination of students' failure and drop-out rates, transfers among programs, length of time in programs, and degrees granted. Such an approach would emphasize that:

> ...the success of a genuine policy of accessibility should be measured by individual progress, by the 'value added' by the system, rather than by admissions alone (Fortin, 1987).

Economic Factors Influencing Enrolment

Throughout much of the debate in the 1960s and 1970s on accessibility, there was an emphasis on the financial barriers to a university education. Tuition fees and other academic expenses were thought to be major impediments for able students from low-income families. Several empirical studies were undertaken to examine the impact of these economic factors, in isolation from other social-cultural influences, on students' motivation for further study; the findings of these studies are reviewed in the rest of this section.

Education As Consumption And Investment An approach that focuses on the economic factors in the enrolment decision must confront the fact that education represents both consumption and investment for the student (and, indirectly, for parents). The consumption approach recognizes that education may provide immediate satisfaction or enjoyment for a student; the challenge of learning new concepts and techniques, the pleasures of extracurricular social and athletic activities, and perhaps even an element of prestige and self-esteem are satisfactions that usually accompany university life.

But these are only a minor part of the benefits students expect from a university education. Various surveys have found that a student's major motive for attending university is to obtain better employment - in terms of job choice, satisfaction, and financial returns - than would otherwise be available to them. This latter element represents the investment or 'human capital' approach to the demand for higher education.

From a consumption perspective, the demand for higher education would depend on its price, one's own or family income, and one's 'taste' or preference for higher education. The latter is influenced by the information and persuasion flowing from many social circumstances such as parents' education, school environment, peer group, and so on.

The consumption demand for education (in terms of university enrolment) can be seen diagrammatically in Figure 4.2. Since the number of places available and the tuition level are determined separately by the government, the supply is shown as a fixed quantity, q_1. That is, the number of places provided (by government policy) does not depend on the level of fees. Enrolment is inversely related to tuition fees, but, as will be seen later, it is not very sensitive to changes in fees. The equilibrium fee - where places demanded equal the number of places supplied - is indicated as f_2.

This is an unusual market, since governments can set the tuition fee independently from the supply decision, and thus can create an excess demand or excess supply by setting the fee below or above the fee at which the market would be 'cleared'. Such effects can be offset, however, by university policies that can shift the demand curve by changing the academic admission requirements. (In this sense a student must meet both the academic and financial prices.) Hence, enrolment may increase or decrease in response to other policy changes while the fee remains unchanged. The government can also alter the demand for university places by providing substitutes in the form of other postsecondary institutions and programs that draw away some of the potential university students. This would shift the demand curve downward

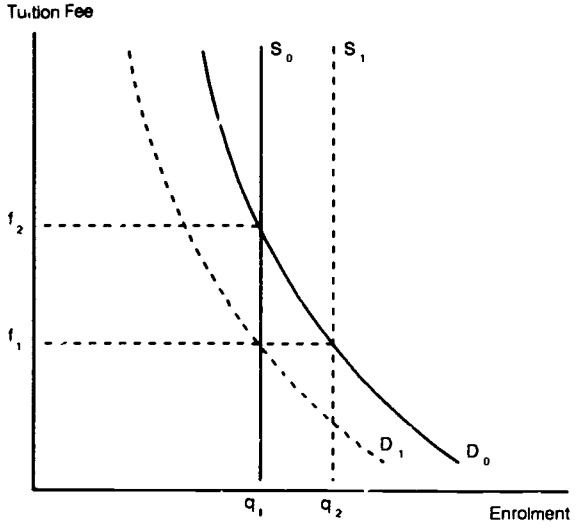


Figure 4.2 The Market for University Education

to D_1 from its original D_0 position, and create excess capacity in the universities. This should emphasize that the government control of tuition fees is only a small part of its overall combination of policies for influencing accessibility. (For a detailed description of such a combination of policies in effect in Ontario, see Darling, 1980.)

The determinants of investment demand for higher education are, however, different from the consumption case. Investment in university education depends on the expected rate of return, or the additional life-time earnings a student expects to receive following graduation when compared with the cost of a university program. The cost of education is therefore still an important factor because it is weighed against the expected returns, and family or personal income now affects how a student will finance the educational investment project, rather than acting as a limit on what one can afford to consume.

When an increase in the relative earnings of university graduates increases the expected return, this increases enrolment and the number of graduates. But in due course, the increased supply of graduates may cause a decrease in their relative earnings. This in turn reduces the expected rate of return, and there is a decline in enrolment. A cyclical market pattern such as this should be taken into account when governments attempt to alter the supply of places because inappropriate actions in the university system can obviously exacerbate the fluctuations in the labour markets.

Changes in Tuition Fees There have been several studies that analyze the effect on enrolment of changes in tuition fees. In most cases the elasticity (or sensitivity) of enrolment in response to this price change is found to be less than -1.0; that is, a ten per cent increase in tuition fees would result in less than a ten per cent decrease in enrolment. In an excellent review of twenty-five studies, Leslie and Brinkman (1987) have standardized the measures, prices, and ages used in each study to conclude that the 'typical' elasticity coefficient is about -0.62. This means that a ten per cent increase in fees would result in a decrease in enrolment of six per cent.

That a change in fees should have a relatively small impact on enrolment is not surprising since, as seen in Chapter 3, the tuition fee is a small fraction of the student's total cost of university education. This cost includes other, larger expenditures plus the indirect cost of earnings that are forgone by not being in full-time employment. These earnings, even after adjustment for income tax and some part-time or summer employment, were seen to constitute 65 to 70 per cent[5] of the total cost of an undergraduate university education (Table 3.4). When these forgone earnings are taken into account, tuition fees represent about 15 per cent of the student's total costs. A ten per cent

[5] A similar proportion (66 per cent) was calculated in a detailed study of students' costs in the United States (Crary and Leslie, 1978).

increase in fees would therefore be an increase of less than two per cent in the student's total cost of education. For this reason, changes in tuition fees generally have not had much effect on enrolment.

Even if a student does give full weight to forgone earnings in the cost calculation, there is an obvious empirical difference. Fees are a direct expenditure that must be financed with 'hard cash', while forgone earnings represent a forfeiture of income that would be replaced by other means to finance variable levels of expenditure for room and board and other personal expenses. Only a few studies have analyzed the effects of changes in tuition fees compared to the same dollar-value changes in these other costs (such as room and board, travel, and forgone earnings), and with ambiguous conclusions. In one study, tuition fee changes were found to have three times as strong an impact on enrolment as did changes in other direct expenses, and to have five times the effect that changes in forgone earnings have. That is, that a $100 increase in tuition fees had the same result as a $500 increase in forgone earnings (Bishop, 1977). A different study concludes that changes in tuition fees and in forgone earnings have almost the same effects on enrolment (Fuller, Manski and Wise, 1984).

But the effect of forgone earnings may always be somewhat ambiguous. When forgone earnings are increasing (due to higher wages for high-school graduates), students recognize that it is worth their while to stay in school, in that their prospective employment opportunities as university graduates are also improving (Crean, 1973; Handa and Skolnik, 1975; Vanderkamp, 1984). Moreover, the earnings from part-time work to finance educational costs are also increasing.

An Ontario study seems to be the only one that estimates enrolment elasticity based on the total education cost, including forgone earnings (Handa and Skolnik, 1972). This elasticity was calculated to be -1.46 for university undergraduates, which is highly elastic or responsive by comparison with most of the results reported for tuition-fee effects alone, and emphasizes the need to consider the total cost, rather than the tuition fee only, when accessibility policy is under review.

Several studies find that the enrolment response to tuition changes differs according to student ability, family income, and other factors. Students with high ability, or from high-income families, were the least responsive to tuition changes (Bishop 1977; and Jackson and Weatherby, 1978). Furthermore, adults (over 24 years) taking part-time studies were much more sensitive to fee changes than were younger, full-time students (Bishop and Van Dyk, 1977). Yet even in these cases, the demand was inelastic; that is, enrolment was relatively unresponsive to tuition fee changes.

If students were in fact sensitive to changes in tuition fees, one would expect them to be even more sensitive to fee differentials among universities at any point in time. But students of high ability - regardless of family-income level - were also found to be more influenced in their choice of university by the

institution's perceived academic rating than by the tuition fee (Chapman and Jackson, 1987). This prompted one author to suggest that:

> ...an institution faced with the choice of increasing tuition or damaging its academic reputation by cutting back programs might do more to discourage applications if it followed the latter course (Spies, 1978:17).

Finally, one may question whether students differ in their responses to decreased tuition fees or increased student aid. Early empirical work in the United States seemed to show that students were more sensitive to tuition fee changes than to equivalent changes in student aid (Leslie and Brinkman, 1987). But later studies show little difference in the response rates, suggesting that students have become more aware of public financial assistance. The same authors conclude that the effect on enrolment of tuition fee increases in the past two decades has been even less than the demand studies would suggest because the growth of student aid programs has offset the effect of price increases: "In effect, students have succeeded in passing increased costs on to others".

Family Income For young, full-time students, the level of family income has a major effect on the enrolment decision, but this decision is also influenced by their parents' occupation and education. In the United States, over the long period from 1919 to 1964, the elasticity of enrolment with respect to family income was 0.69. That is, a ten per cent increase in real disposable income (while controlling for changes in other factors) resulted in an enrolment increase in four-year colleges of almost seven per cent (Galper and Dunn, 1969). This is similar to the income elasticity of 0.78 for public four-year colleges in Massachusetts found by Hu and Stromsdorfer (1973).

Other studies have found a higher income elasticity. Campbell and Siegel (1967) estimated an income elasticity of 1.20 for the United States, and Handa calculated that the elasticity was as high as 6.0 for Ontario undergraduates during 1950 to 1965 (Handa and Skolnik, 1972). Foot and Pervin (1983) estimated the income elasticity for Ontario university undergraduates in 1979 to be 1.09. This latter figure is much closer to the estimates reported above for the United States and suggests that the 1950 to 1965 experience in Ontario was unique.

Expected Earnings and Rate of Return A student's assessment of the rate of return on educational investment is one of the strongest influences on the enrolment decision. This is calculated by comparing the expected income differential between university and high school graduates with the total costs, including forgone earnings. While it may be argued that students do not make such explicit and detailed calculations of rates of return, they do at least behave in accordance with implicit estimates of these net returns. In fact, it has been argued that the postsecondary expansion in the 1960s was not so much due to the demographic bulge of the baby-boom as to favourable economic expectations, and that the subsequent slower growth or decline in

enrolment in the 1970s was due mainly to a deterioration of economic conditions and students' diminished expectations (Gordon, 1981).

It is important to focus on the rate-of-return approach because this combines the effect of changes in labour market conditions as well as in tuition fees and other educational costs. This can explain an increase in enrolment, even when there is an increase in fees, if there is a substantially increased demand for graduates. Evidence shows that changes in the rate of return have generally accounted for more of the variation in enrolment than have either changes in fees or family income (Freeman, 1971).

A student's expectations of future benefits from a university education are also influenced by a number of social factors. Information and expectations about future employment opportunities depend on family and school influences, and students' expectations about earnings for any given program may vary by sex, ethnicity, and other cultural characteristics. For example, a study in the United Kingdom found that 16-year-old males expected the rate of return on their first degree to be ten per cent, while females expected it to be eight per cent (Williams and Gordon, 1981). In addition to the effect of other social factors, this difference in expectations likely was the result of projecting the historical gender wage gap into the future.[6] From this viewpoint, the educational demand or access question is more properly seen as an issue of expected employment opportunity.

Social Influences on Enrolment Decisions

Numerous social and cultural factors have an impact on the probability that a student will pursue higher education. The main factors are parents' education, occupation, and home environment; ethnic origin; student's age and sex; and the student's peer group and school environment. It is increasingly evident that these social influences, and not financial need as such, determine whether students will pursue postsecondary education - and especially a university education.

Family and Friends Because educational decisions are strongly conditioned by family environment, students tend to make their educational decisions early in their lives (Breton, 1972). Parents play a very important role in this decision-making process, either in a positive way by discussing their children's plans with them and encouraging them to continue their

[6] These differences may have been appropriate in the United Kingdom at that time. However, the actual private rates of return calculated for Ontario for 1985 generally were higher for females than for males. (See Chapter 5, Table 5.1.) This is explained in part by the lower forgone earnings and proportionately larger earnings differentials for female university graduates when compared with female high school graduates.

education, or in a negative way by not expressing an opinion on their children's plans and failing to provide encouragement.

Many studies document the fact that students whose parents did not complete secondary school have a much lower participation rate in university education than children of more educated parents. (See especially Halsey, Heath, and Ridge, 1980; Borus and Carpenter, 1984; Guppy and Pendakur, 1989). It is suggested that the effect of parents' education:

> ...can be accounted for in terms of parental interest and encouragement, the influence of lifestyle and transmitted aspirations and the familiarity pupils and parents have both with the demands of post-compulsory education and with the types of jobs available after continued study (Williams and Gordon, 1981).

Studies in the 1970s showed that public efforts to increase accessibility to university through low tuition and increased student aid did not substantially alter the socio-economic mix of the student population. This was because the most significant selection factors operate at a much earlier stage. Primary and secondary schools are not able to counteract the negative effects from family and other social influences that impinge on students' motivation, and on the verbal, social and other skills needed to complete the secondary school preparation for university entrance.

But from among those students who do complete their secondary schooling, a large percentage go on to university regardless of family background. The key issue then is to discover why students leave the educational system before finishing secondary school. Among other factors, a student's peer group appears to have more influence on the student's postsecondary decision, the less support there is from parents. Conversely, peers are least influential in the case of young people whose parents have some direct experience of postsecondary education (Gordon, 1981).

Status and Values Beyond the effect of parents' education lies a set of interactive variables described collectively as social class or 'socio-economic status' (SES). This combination includes parents' schooling, occupation, income, and sometimes race, language, and other factors that determine a family's social status.

There is also an underlying socializing process that is responsible for changes in participation rates (Anisef *et al*, 1985). This is the *internalization* of values and beliefs through family, peer and school socialization:

> That a *change* in values and beliefs is possible is exemplified by the substantial increases in participation of women and some ethnic minority groups in Ontario universities and colleges over the last decade. These changes would not have occurred unless accompanied by specific value changes and institutions' willingness to make accommodations (Anisef *et al*, 1985:110).

Institutional Factors in Accessibility

Several influences on accessibility are related to the institutional structure and performance of the university system. While these generally do not have as strong an effect as the economic and social factors, they do have an impact on those who are at the margin of their decision-making.

Geographic Proximity The effect of the geographic proximity of a university on enrolment has not been studied as fully as some of the other economic and social factors. While there is considerable evidence that students from rural areas, towns and small cities are less likely to enrol in university than those from big cities, this does not take into account whatever intervening factors may also have an effect. For example, it is necessary to control for parents of given income/education/occupation groups, and then determine whether those who live in a small town have the same influence on their children's educational decisions as parents who choose to live in a metropolitan area. It may also be that school and peer-group influences differ systematically by geographic location, with a differential effect on attitudes and information: a student living in a university city may have a better knowledge of programs available, admission criteria and probability of admission, and employment opportunities for graduates. And of course costs would be lower to the extent that a student lives at home rather than in a university residence.

However, the empirical evidence seems to suggest that geographic proximity is not a major influence on enrolment. An American study concludes that this factor, when other student characteristics were held constant, was not significant in explaining differences in enrolment rates:

> Our simplest conclusion, in brief, is that special accessibility to one or more colleges has little effect, for most youth, on whether they will attend college - be the accessible school a junior college, an open-door four year college, or a more selective institution (Anderson, Bowman, and Tinto, 1972:267).

The authors note, however, that proximity *may* have an effect on certain minority groups, such as black students in some areas of the United States. This general result was confirmed by Hopkins (1974) who found that institutional proximity influenced the choice of *type* of postsecondary institution but not the probability of continuing to postsecondary education.

Information Inadequate and erroneous information has been a long-standing problem influencing the demand for further education. Many high-school students are unsure of the costs of postsecondary education, the financial assistance available to them, and the various opportunities for further study. A Gallup poll in the United States in 1988 found that young people (ages 13-21) greatly overestimated the costs of attending college. The average estimate of the costs for tuition fee and books for one year at a state four-year college or university was US$6,841; but the actual average cost (according to the College Entrance Examination Board) was US$1,977 (Halstead, 1989).

Although school guidance programs can provide some of this information, students whose parents and other relatives have had some postsecondary education usually have a more accurate and complete picture of the several costs and benefits. Children of university-educated parents are exposed to social discourse about the relative merits of different programs and universities. Similarly, students at high schools that send a large proportion of their graduates to university will benefit from peer-group sharing of information (and some misinformation) on university programs, admission policies, financial aid, etc. Guidance programs and information provided through various media may gradually reduce the information gap, but the information should be directed primarily toward parents in the lower-income groups.

Access To What? - Quality and Diversity

This section of the chapter touches upon a different aspect of accessibility, namely the quality and diversity of universities and their programs. These elements define both the opportunities available to potential students, and their eligibility for admission. The quality and diversity of programs therefore need to be maintained and enhanced as components of an accessibility policy. Whether this can be achieved depends on the level and structure of tuition fees, as well as on the level and mechanism for government funding.

Quality. There is a common - but confused - assumption that it is necessary to make a trade-off between accessibility and quality. This assumption appears to have at least two interpretations: first, that an increase in enrolment can be achieved only by lowering admission standards - that is, by reducing the average quality of students; and second, that an increase in enrolment results in a larger student-faculty ratio, which is seen as a reduction in quality. Yet neither of these assumptions is necessarily valid. An increase in enrolment can be achieved through programs that attract admissible students who would not have applied otherwise, or as changes in social values and perspectives change the desirability of university education. Furthermore, a change in the input ratios may not directly cause a change in the quality of outputs if appropriate financial and administrative arrangements are made to maintain the quality of instruction.

Much of the evidence cited for a deterioration in the quality of university education in recent years refers to changes in the inputs, rather than the outputs, of the educational process. The expected results or outputs can be defined and measured in terms of basic communication skills, general and specific knowledge, aptitude for critical reasoning, and the formation of social and political values (Billing, 1980). But little direct and systematic evidence has been provided on any changes in the quality of the output (Skolnik and Rowen, 1984). It is ironic that research of this kind is unlikely to be funded in periods of financial stringency, which is when it is most needed.

Diversity and Choice The concern that some effort should be directed to maintaining diversity in the university system emerged in the early 1980s. A 1980 report of an American commission on higher education, for example, takes as its central theme the importance of diversity. The commission stated quite plainly that:

> ...diversity is in itself an important strength of higher education. It is good for the system and it is good for the country. It should be protected...(Sloan, 1980:40).

In a book-length study, *Maintaining Diversity in Education*, Birnbaum (1983) begins by setting out the basic questions on diversity:

> Why is diversity important? How can it be measured? Is it increasing or decreasing? What public policies can enhance or restrict it?

Universities already differ from each other in certain respects. One may immediately think of size, general reputation or prestige, or acknowledged strength in a particular field. But there needs to be agreement on an operational definition or measure of diversity, and on the specific features that would enhance the desired diversity. This is especially noticeable with respect to diversity in university systems:

> Failure to define the concept in operational terms has resulted...in disagreement about the present level of institutional diversity..., the extent to which diversity is increasing or decreasing, and even the reasons why diversity is important in a system of higher education (Birnbaum, 1983:37).

Diversity is an important aspect of a postsecondary system, and ought to be a major social and economic objective in financing the system, for several reasons. First, a diversity of institutions, presenting a range of choices for students, is an important component of an accessibility policy because individuals are more likely to find a match between their preferences and abilities and a university's programs and admission standards. The more likely such a match will occur, the greater the actual accessibility and the participation in the university system.

Second, where there is a deliberate policy of diversity of institutions, each university can determine its own particular purpose or 'mission statement', and can concentrate its programs in light of its given human and physical resources, without feeling obliged to defend its position by offering a proliferation of programs or by maintaining the admission and grading standards equal to the top-ranked institution.

Third, a diversified university system can be both more adaptable and more stable than a homogeneous system. The latter tends to react more slowly to changing enrolment demands and research priorities, but to be less stable in doing so since it carries the momentum of the whole group of institutions.

Such responses to educational and research demands are not compromises of academic standards and autonomy, but rather are reactions to and leadership of an increasingly complex social and economic environment.

Diversity as a policy objective has emerged in response to the increasing uniformity and concentration of financing mechanisms and sources, and because it bears strongly on the accessibility objective. Frequent proposals have been made recently that universities should be permitted greater flexibility in setting tuition fees in order to respond to changes in students' demand for places in the various undergraduate programs. The Macdonald commission, for example, argued that when government funding is constrained

> ...the tuition fees paid by students often represent almost the only financial incentive for universities to respond to changes in enrolment demand. Even this incentive is limited, however, because provincial governments exercise heavy control over fees... (Canada, 1985:743).

Not only is there a need to ensure that universities respond to changes in the relative demand for different programs, but universities should also be able to respond, within reasonable limits, to differences in students' preferences and abilities within any given program. This requires what has been described as "a much more heterogeneous postsecondary system, efficiently serving the highly varied needs of different...students" (Canada, 1985:749).

The relationship between diversity in programs and diversity in tuition fees has been particularly emphasized. Consider, for example, the following argument for fee-setting by individual institutions:

> To give PSE [postsecondary education] institutions greater control over their fee structure might also induce greater variation in fees across programs and, particularly, among institutions, reflecting differences in costs and in the nature of programs provided. Some institutions would be likely to offer low-cost "no frills" education, while others would provide more intensive, higher-level education intended to set very high standards of achievement. *Both approaches are entirely appropriate and desirable, since both serve a real social need* (Canada, 1985:749).

Birnbaum concludes that the most effective means for maintaining diversity "is to encourage fair competition in the student marketplace". This would be based on moderate increases in tuition fees generally, permitting individual institutions to vary their fees by program, and increasing need-based government grants to students. It is noteworthy that Birnbaum's advocacy of the market mechanism is not based on its tendency to provide services more efficiently. Instead, such a mechanism provides the diversity "represented by the choices of numerous consumers rather than by the presumably rational, but inherently limited, views of state agencies and governing boards".

Enrolment Rates in Ontario Universities

The university undergraduate enrolment rate in Ontario, expressed as undergraduate enrolment as a percentage of the population in the university age group,[7] has increased continuously since 1950. Its greatest growth was during the 1960s; it even continued to rise slowly through the 1970s when the enrolment rates in most other provinces declined slightly; it then rose more quickly during the 1980s (see Figure 4.3.).

The economic and social factors that led to both increased private demand and greater government support for facilities to meet that demand in the 1960s are well known: strong economic growth, the emerging human capital view that supported public and private investment in education, growth in employment of teachers in schools and colleges in response to the postwar baby boom, and a commitment to education as a means for providing greater economic and social opportunity for the disadvantaged. But it appears that the net increase in tuition fees (adjusted for student aid) had no significant effect (Vanderkamp, 1984).

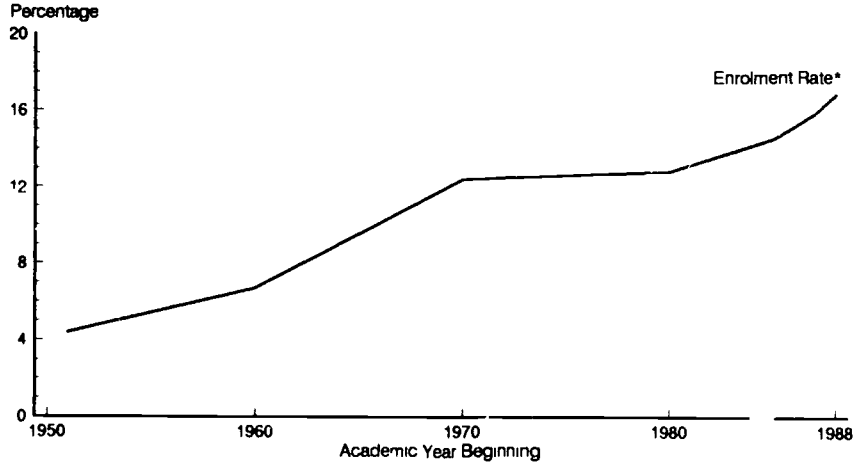


Figure 4.3 Enrolment Rate for Full-time Undergraduates in Ontario Universities, 1951-1985

Full-time undergraduate enrolment as a percentage of the 18-24 year-old population

Source Vanderkamp (1988)

[7] The university age group is usually assumed to be the 18 to 24 year-olds. In 1985, almost 90 per cent of full-time university undergraduates in Canada were in this age range.

The slow increase in enrolment rates in the 1970s seems to have been linked to the emergence of the community colleges as an alternative to universities, and to a temporary excess supply of graduates in the labour market - and particularly to lower returns on private investment in education (Freeman, 1977; Foot and Pervin, 1983; Vanderkamp, 1984; Paulsen and Pogue, 1988).

Enrolment rates are also strongly influenced by changes in the level of parental education.[8] About one-half of the increase in the proportion of males attending university through the 1970s could be attributed to the increase in the proportion of the population with higher levels of parental education. That is, the increased enrolment rate resulted not from increases in participation rates within specific socio-economic groups but from an increased number of persons in the socio-economic groups whose children are more likely to go to university (Anisef and Okihiro, 1982).

When one interprets the enrolment rates for policy purposes, it is important to distinguish between the university enrolment rate and the overall rate for postsecondary education. The university rate will be affected by students' choices between university and community college, as well as by their decisions about education or employment following high school graduation. Slower growth in the university enrolment rate may reflect a larger proportion of students choosing community college programs, rather than a decision to enter the labour force (for example, see Alberta, 1984). This may be quite consistent with public policy, and not a reason for concern about the effectiveness of accessibility policy.

University enrolment rates should also be calculated separately on the basis of the student population that would be admissible. By separating those who are qualified to enrol from others in the age group, it is possible to identify the major factors or problems that explain why some students do not complete high school, and why those who do decide not to continue their educational careers.

Socio-economic status or social class has been measured in such a variety of ways that it is difficult to trace the effects of accessibility policies on specific socio-economic groups over time. Systematic comparisons of major accessibility studies have also been virtually impossible because each study has used different operational definitions of socio-economic status. But a single, longitudinal study made it possible to conclude that:

> ...there is little evidence, in the 1970s, that educational expansion has succeeded in reducing existing social-class differentials in postsecondary attendance in Ontario (Anisef, 1982).

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[8] Census data for Ontario in 1971 and 1976 showed that less than 10 per cent of young males whose fathers had little schooling went to university, compared with over 40 per cent of those whose fathers had a university degree.

Summary and Conclusions

The most common observation in the extensive literature on accessibility to higher education is that for the great majority of potential students financial conditions are not a significant barrier. Given the strong influence of the social factors, even 'free' or zero-tuition is unlikely to affect university enrolment very much, because tuition represents only a minor part of the cost, and because so many other factors influence a student's decision. Financial factors have their influence mainly on the student who is at the margin of the group headed for university. If a student is not highly motivated and is unsettled about a postsecondary program, the educational costs may be seen or used as a reason for not going.

A second major observation is that despite the enormous expansion in numbers and types of postsecondary institutions and in student assistance programs, there has been relatively little change in the composition of university enrolment (Guppy, 1984). Pike concluded that for Canada

> there was no indication that the university expansion [of the 1960s] had been accompanied by more than a small increase in the participation rates of students of lower class origins relative to the participation of students from the more privileged classes... In other western countries...the picture would appear to be generally similar: for example, in Britain, France and the United States...the state universities and the prestigious private institutions continue to draw from predominantly middle and upper middle class populations (Pike, 1981).

In Sweden, where there are no tuition fees, students from high-income families are more likely to choose longer university courses; those from the lower-income families are more likely to choose shorter, non-university courses. This may be due to the effect of forgone earnings, although highly subsidized loans are available, but it is more likely the result of parental influences on motivation and career choices (Woodhall, 1970:136).

Similar results occurred in Australia, where tuition fees for postsecondary education were abolished in 1974. A comprehensive survey of the Australian experience (Anderson *et al.*, 1980; and Anderson and Vervoorn, 1983) concluded that the overall social composition of students entering higher education institutions in the two or three years following the abolition of fees "appears to have changed very little". The authors noted, however, that the groups now under-represented - part-time students, women, older students, and rural residents - would be the ones most affected should there be a reintroduction of fees. As Chapter 7 reports, fees have been reintroduced in Australia, but these are financed by deferred payments based on the size of the graduate's earnings. It will obviously be some time before the effects of this new program can be assessed.

Quebec has had a similar experiment with tuition fees. The level of fees has been unchanged for two decades, yet there has been no specific research on the effect this has had on the socio-economic composition of university enrolment. The enrolment rate for full-time undergraduates, however, has increased less than in other provinces where fees have increased substantially (Vanderkamp, 1988). Conversely, the enrolment rate for part-time students increased proportionately more in Quebec than elsewhere. Whether these two distinctive effects could be attributed to the freeze on fees has yet to be examined.

The third major observation, related to the two preceding points, is that the level of parents' education is perhaps the strongest single influence on a student's decision whether to continue to postsecondary education, and especially whether to take a university program. This will be an extremely difficult barrier to overcome. In the case of low parental education, it was noted earlier that students generally receive little support or guidance with their further educational plans. Moreover, peer group influence becomes stronger in this case, and for this group, the peer group usually has a negative effect. Whatever success in offsetting these influences may be achieved by information, counselling, and financial incentives, in terms of increasing the participation rates from this under-represented group may be counteracted in relative terms by a similar increase in participation rates for the group from higher parental educational levels. This occurs when young people from the upper middle class recognize that they need to strive more vigorously to maintain their relative position in the occupational and social structure (Anderson *et al.*, 1980).

An issue that is perhaps more fundamental than the appropriate *relative* participation rates of different social groups is the question of what the overall participation rate should be. This was a primary question in the 1960s when governments were attempting to provide enough university places to accommodate an autonomous demand. Now the question arises again in terms of the government's potential for inducing demand. The economic answer to this question is relatively easy: expand or contract enrolment until the total rate of return is equal to the rate of return realized by the allocation of resources to other sectors of the economy. But the nonmonetary costs and benefits, that are almost impossible to identify, require that there should be a blending or integrating of the economic view with a socio-political view of the appropriate participation rate.

Finally, it will not be possible to develop successful policies on accessibility, tuition fees, and student aid until there is a better understanding of how educational career decisions are made. Existing research can provide answers on who goes, and who does not go to university; but so far, the explanations for these differences have only been imputed. More probing studies of students' decision-making are required in order to design more effective policies for enhancing participation by the minority groups that were identified at the beginning of the chapter.

Chapter 5

Economic and Social Benefits of University Education

For any social or economic activity where public financing is involved - such as education, health, or transportation - an analysis of public policy must ask why a public contribution is justified; how large that contribution should be; and what form the public financing should take.[1] The discussion here is particularly for the purpose of providing a perspective and information on the issue to be examined in Chapter 5: "How much of the cost of university education should be contributed by the public, and how much by the student?"

There are basic economic and social objectives with respect to university education that justify both public and private contributions. These rationales are related to the objectives of achieving a more equitable distribution of incomes, both through the method for financing education and through assisting students to invest in the development of their own human capital, and of increasing the social and private benefits of education through better allocation of resources.

The latter objective emphasizes the need for public policy to deal with limitations inherent in the market system through the use of subsidies to increase external benefits - the advantages of university education that are enjoyed by society at large rather than by the individual graduate - and the need to overcome imperfections in the markets for education and for the labour services of the graduates (Bird, 1972).

Income distribution is seldom raised as an issue in public discussions on the financing of higher education. Yet deliberations on public policy should be concerned with whether or not public support for university education results in a more equitable distribution of real income in our society. While this issue is explored in the present chapter, it will be seen that the related policies and concepts are generally not well understood, and that the empirical evidence is not well developed.

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[1] This approach obviously assumes a market economy with explicit government intervention. In a more socialistic economy, the choices would be cast in terms of the size and nature of each sector, rather than the source of financing.

Private and External Benefits

The benefits of university education to individuals and to society are widely recognized - higher incomes, technological innovation, improved social conditions, and so on. In a careful analysis of these benefits, however, they should be classified according to whether they are enjoyed directly by the university graduate (the private benefits) or by other persons in society (the external benefits). In each case, the benefits can be further divided between those that can be measured in monetary terms and those nonmonetary benefits that may even be difficult to define, let alone to quantify.

The most obvious private monetary benefits are the increased earnings ssociated with further education. But there are other benefits that have a monetary value, even if these cannot be so precisely measured as one's income. This latter group, collectively termed consumption benefits, include: improved health and greater longevity; higher levels of children's educational attainment; higher yields on personal investments; more efficient consumer spending; and greater utilization of labour-saving technology. They have been the subject of recent empirical research (McMahon, 1987a).

The nonmonetary benefits comprise a long list, only some of which can be identified here: the satisfaction of learning while at university, and the use of this learning in later life; social status or prestige; the opportunity for learning more about oneself (self-discovery); education and training of children; and a wider range of choice of mates.

External benefits - those benefits that accrue to others in the economy rather than to the individual graduate - are also numerous. Considerable research has been undertaken on these benefits, but their indirect and diffused nature has made it extraordinarily difficult to measure and evaluate them (McMahon, 1987a; see also Bowen, 1977). Yet their existence is implicitly one of the major arguments for public contributions to university education. The most widespread external effects of education would include its enhancement of democracy and democratic institutions; efficient operation of markets; adaptation to technological change; lower social welfare costs; more volunteer service in community organizations; a higher level of community health; and more sophisticated political and business leadership.

The most easily measured external benefit is the portion of the graduate's output represented by taxes paid on employment earnings. There is also the additional output of other workers that is attributable to the graduate's higher education, but this is more difficult to identify and evaluate. Instances of such additional output occur when there is a complementarity of labour, such as in the combination of engineers and technologists, dentists and their auxiliaries, and lawyers and legal assistants.

Returns to Investment in University Education

The returns to investment in university education can be calculated for the individual student (private returns) or for the total economy (total returns), based on the after-tax and the before-tax earnings of the graduates. The economy's total costs of university education include the direct expenditures made by universities for salaries, books, supplies, and equipment; the indirect or imputed costs of depreciation and interest forgone on the investment in physical plant and equipment; tax exemptions; students' expenditures for books, supplies, net costs of accommodation and travel; and the value of the output forgone because students are not in the labour force.

For the individual student, the costs of education include tuition fees, expenditures for supplies, books, net accommodation and travel; and forgone after-tax earnings, net of part-time and summer employment income. This comparison of the private costs and benefits is illustrated in Figure 5.1.

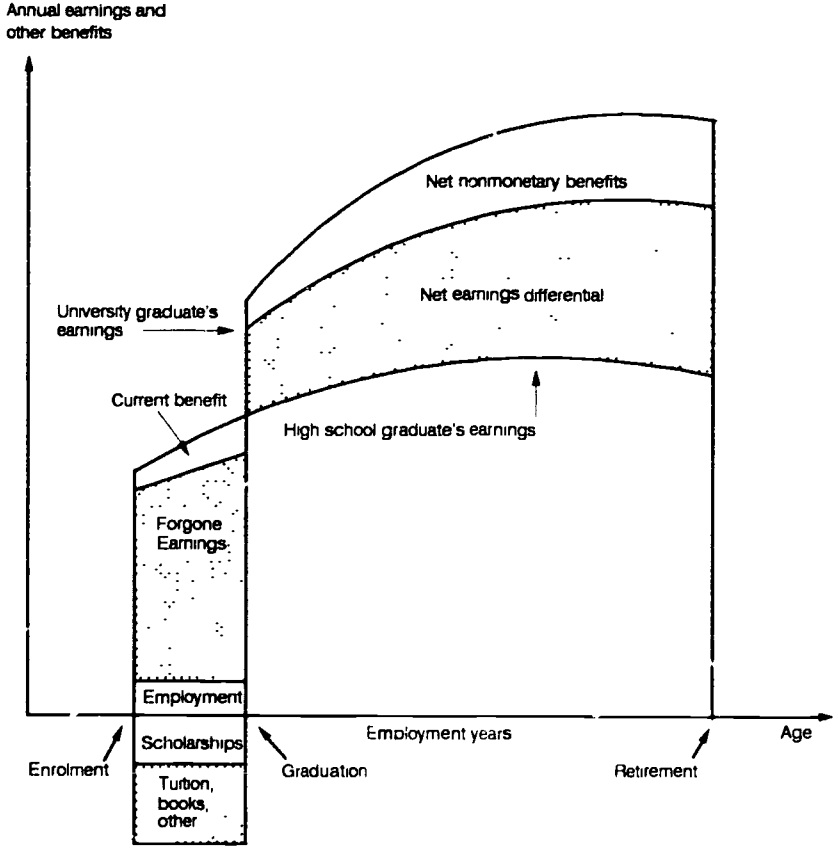

Figure 5.1 Private Costs and Returns to Investment in Higher Education

The return to educational investment is calculated by one or more of three common techniques: net present value, benefit/cost ratio, and internal rate of return.[2] The internal rate is more commonly cited than the other two measures because present values can be compared directly only for specific time periods and currency units, and both the benefit/cost ratio and net present value must specify the discount rate used in the calculation.[3]

While benefit-cost analysis does have shortcomings if improperly interpreted or applied, the basic logic of the analysis is unassailable.[4] This method simply compares all benefits and all costs associated with a particular project or program in order to determine whether the benefits exceed the costs. The criticisms of benefit-cost analysis as it is applied in postsecondary education are mainly concerned with the quality of the earnings data (Blaug, 1976). These issues are discussed in Appendix D.

Although some of these objections are important when broad comparisons are made - such as between health and education programs - they are much less serious when similar programs are compared. The more serious objections are that much of the private nonmonetary benefit and the external benefit is

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[2] The net present value is the sum of the benefits minus the sum of the costs, both discounted at an appropriate rate to a common year. The benefit/cost ratio is the sum of the discounted benefits divided by the sum of the discounted costs. The internal rate of return is the discount rate in the net present value formula that equates the total benefits and total costs, or results in a net present value of zero. The net present value is calculated by the formula:

$$V_a = \sum_{t=1}^{n} \frac{B_t}{(1+i)^t} - \sum_{t=1}^{m} \frac{C_t}{(1+i)^t}$$

where V_a is the net present value at age a , C_t is the cost in year t , B_t is the benefit (adjusted earnings differential) in year t , m is the duration of the educational program, n is the working lifetime in years, and i is the discount rate.

[3] The discount rate reduces the value of future costs or earnings to their current value, taking into account risk, inflation, and the common preference to receive a dollar today rather than a year from today (that is, the 'rate of time preference').

[4] Benefit-cost analysis should be distinguished from cost-effectiveness analysis. The latter is concerned with comparing the costs for alternative methods to accomplish a given output, while benefit-cost analysis is concerned with comparisons of the net benefits obtained from different outputs or programs.

omitted from the empirical calculation of total economic returns to education, and that the earnings for different occupations may reflect quite different labour market structures or conditions.

Returns to Selected Programs

Comparisons of rates of return among fields of study avoid most of the problems associated with variations in externalities, ability, and other effects because such differences are less significant within this group than between high school and university graduates.

Data and Adjustments The rates of return to selected university programs for 1985 have been estimated using earnings data from the 1986 population census of Canada.[5] The returns to investment are represented by the differentials between the earnings of university and high school graduates.[6] In each case, the earnings were adjusted for life expectancy[7] and labour force participation.[8] For calculations of the private rates of return, the earnings were also reduced by the amount of personal income tax.[9] The costs of university education include the earnings forgone while attending university;

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[5] Earnings include wages and salaries plus self-employment income for part-time and full-time workers for the calendar year 1985. Calculations are based on mean earnings by individual year of age.

[6] University graduates included in this analysis are those persons with a bachelor degree, a university certificate above the bachelor level, or with a doctorate degree in medicine, dentistry, veterinary medicine, or optometry. Persons with a master's degree or other doctorate degrees are not included. High school graduates are those persons whose highest educational qualification is a secondary school graduation certificate.

[7] Life expectancy at each year of age was based on mortality tables, by gender, for Ontario for 1980-82 (Statistics Canada, *Life Tables, Canada and Provinces* 1980-82, no. 84-532).

[8] Labour force participation rates by gender and educational level for Ontario were available only for 1981 (Statistics Canada, *Census of Canada, 1981*, no. 92-915). These rates were published for age groups 25-44 and 45-64 years.

[9] The income tax adjustments were based on the effective rate of federal tax on total income, by detailed income class, for 1985. The federal rate was increased by 50 per cent to include the provincial tax for Ontario (Revenue Canada, *Taxation Statistics*, 1987 edition, summary table 2).

estimates of these were based on the employment income for high school graduates, for ages 19 to 24.[10] (See Appendix Table A.5.)

Private costs for each program include the students' costs for tuition fees, bo ks, supplies, other direct expenditures,[11] and net forgone earnings. (See Appendix Table A.6.) Room and board and transportation expenditures should be included only to the extent that they exceed comparable costs incurred by students in any alternative activity.

Total costs for each program include the institution's costs, the students' direct costs, and before-tax forgone earnings. (See Appendix Table A.7.) Tuition fees are not included separately in total costs because they are reflected in the institutional expenditures. Direct institutional costs are based on the value of the universities' basic operating income, consisting of the provincial government grant, multiplied by the (BIU) weight that is assigned to enrolment in the selected programs, and the actual tuition fee for each program. The indirect institutional costs include depreciation and forgone interest associated with fixed assets, and tax exemptions for educational institutions.[12]

Calculated Rates of Return The results of the rate of return calculations presented in Table 5.1 can be compared in three directions - across programs, between genders, and for private and total investment in education.[13]

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[10] The actual forgone earnings were adjusted upward on the assumption that university students would have earned more than the average for high school graduates. The assumed differential in the 1968 study was 16 per cent for males and 10 per cent for females; the same differential was assumed in this study to permit a direct comparison of results. One could also rationalize the opposite adjustment. Willis and Rosen (1979) have estimated that those who attend university would have earned less as high school graduates than measurably similar people who entered the labour force directly from high school.

[11] Data for these costs are estimated from *A Profile of Post-Secondary Students in Canada*, Statistics Canada, 1987.

[12] These costs were set at 60 per cent of the direct costs. A ratio of 47 per cent was estimated by a detailed examination of institutional financial statements for calculating the 1960 rates of return. The higher ratio for subsequent years takes the 1960-1975 expansion into account (Stager, 1968).

[13] In order to test the sensitivity of the estimated returns to the adjustments and assumptions, alternative assumptions were used in other calculations. These are discussed in Appendix D.

Table 5.1

Rates of Return for Selected Bachelor and First Professional Degree Programs, Ontario, 1985

Program	Private		Total	
	Males	Females	Males	Females
Arts and Science				
Teaching	4 0	10.2	3.8	8.6
Other occupations [1]	4 4	6.9	3 6	3.8
Commerce				
Accountants	13.1	20.6	11.4	17 1
Managers [2]	14.0	15.2	12.1	11 8
Social Work (BSW)	-	9.0	-	5.6
Law	13.6	-	11.6	-
Engineering	14 0	-	10.7	-
Architecture	6 0	-	4 5	-
Nursing [3]	-	17 8	-	11 8
Pharmacy	17.4	20 7	14.0	13 1
Medic ne	21.6	19.6	15.2	12 2
Dentistry	22.4	-	15.5	-
All occupations [4]	14 0	15.2	12.1	11 8

1 All occupations, excluding those listed in this Table

2 Other managers and administrators (SOC code 113/114)

3 Income data are for nursing supervisors

4 Income data for all occupations are compared with costs for Arts and Science

The private rates of return for male graduates are highest for medicine and dentistry (22 per cent), slightly lower for pharmacy (17 per cent), similar for commerce, law, and engineering (14 per cent), and quite low for architecture (6 per cent), teaching, and other occupations (4 per cent).[14]

The pattern of private rates of return for female graduates is generally similar to that for males, but the female returns tend to be slightly higher. The return for female teachers, however, is more than twice that for the male teachers; this may be a major factor in what is currently described as a shortage of teachers.

The total rates of return are lower than the private rates for each program and for both genders. This is because the total cost is at least twice the private cost for each program, and because the larger, before-tax income used in the total rate of return calculation is greatest at higher ages where the earnings differentials are substantially discounted. The danger in comparing private and social returns - especially for policy purposes - is discussed in a later section of the chapter.

Changes in Rates of Return, 1960 to 1985

During the 1970s there was a significant decline in the returns to university education. This was symbolized by two articles that appeared at a fifteen-year interval: in 1960 Becker published the pioneering article, "Underinvestment in College Education?"; in 1975 Freeman responded with an article titled "Overinvestment in College Training?" Freeman also attracted much attention with his book, *The Over-educated American*, in which he reported earlier findings: that the average private rate of return for male[15] graduates of American four-year colleges had been about 11.0 per cent from 1939 to 1959, increased from 11.0 per cent in 1959 to 11.5 per cent in 1969 and then dropped to 10.5 per cent in 1972 and to 8.5 per cent in 1974 (Freeman, 1975).

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[14] That architecture should be so low by comparison with engineering is surprising - particularly because the economy was in a strong expansionary phase in 1985 with considerable activity in commercial and residential construction. Income data by age show, however, that architects do not reach parity with engineers in terms of annual income until ages 40 to 45. Moreover, architecture students have an additional year of education (at higher mean cost) and one less year of employment income.

[15] Calculations of rates of return are based on male graduates because female graduates had much lower labour force participation rates and were concentrated in a few occupations. Their labour force experience has changed substantially in three decades, so that reliable calculations can be made for the later 1980s.

Cyclical Pattern Comparable estimates for Ontario show that the average private returns for male university graduates dropped from 17.4 per cent in 1960 to 12.2 per cent in 1970.[16] By 1980, the private rate of return had declined still further, to 9.9 per cent.[17] (This is comparable to the 9 per cent return estimated by Vaillancourt, Carpentier and Henriques, 1987.) The total rate of return followed a similar pattern for this period: from 14.9 per cent in 1960, the rate dropped to 10.8 per cent in 1970 and to 7.9 per cent in 1980.

But the decline in returns to higher education in the 1970s was a relatively short, cyclical condition rather than the beginning of a long-term trend. (See Figure 5.2.) In fact, the private and total rates of return have increased rather sharply, and are approaching the level of the 1960s. For 1985, the average private rate of return for male graduates was 14.0 per cent; the total rate of

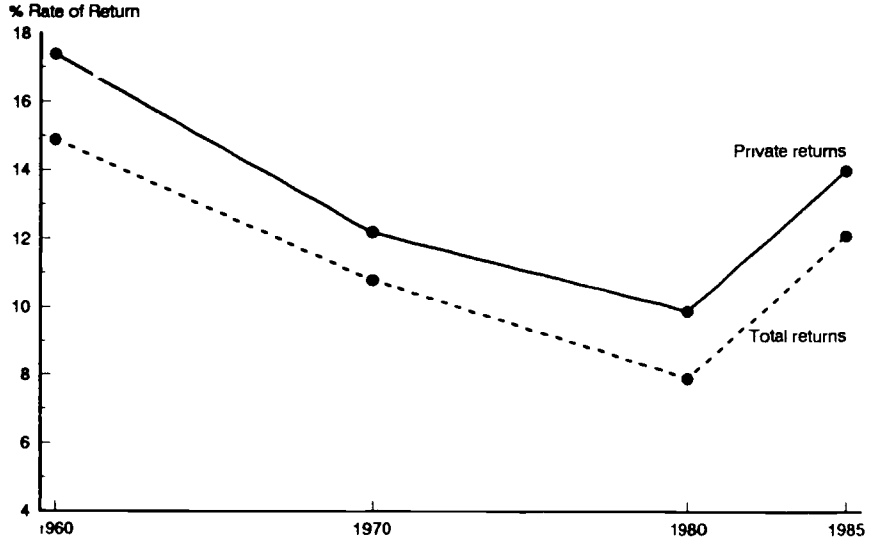

Figure 5.2 Private Rates of Return to Male University Graduates, Ontario, 1960-1985

[16] The 1960 estimate is from Stager (1968); the 1970 and 1980 estimates were calculated during the current study using data from the Public Use Sample Tapes from the 1971 and 1981 censuses.

[17] Other results for Canada and/or Ontario for the period 1960 to 1980 have been reported by Mehmet (1977), Bélanger and Lavalle (1980), Cousineau and Vaillancourt (1987), and Vaillancourt and Henriques (1986), but the data and/or assumptions used in these studies prevent direct comparisons with the results reported here.

Table 5.2

Rates of Return for Males for Selected Bachelor and First Professional Degree Programs, Ontario, 1960 [1] and 1985 [2]

Program	Private		Total	
	1960	1985	1960	1985
Arts and Science - Teaching [3]	10.3	4.0	8.6	3 8
Commerce - Accountants	19.0	13.1	5.3	11.4
Law	14.7	13.6	1..9	11.6
Engineering	16.8	14.0	12.4	10.7
Architecture	14.4	6.0	11.5	4.5
Pharmacy	17 9	17.4	12.6	14.0
Medicine [4]	18 0	21.6	14.3	17.2
Dentistry [4]	30.2	22.4	22..	18.2
All occupations [5]	17 4	14.0	14.9	12.1

1 Rates of return for 1960 are from Stager (1968)

2 See Table 5 1.

3 Calculations for 1960 are based on an additional year of study (for teaching certificate) and one less year of earnings.

4 BIU weight of 3.0 used to estimate institutional costs This was actual for 1960 and hypothetical for 1985; actual BIU weight in 1985 was 5.0.

5 The rates are based on the average income for all occupations compared with the costs for Arts and Science.

return was 12.1 per cent. This recent rise in the rates of return is likely due to the slower increase in supply of new graduates than in the demand for their services (Murphy and Welch, 1989). This would confirm Freeman's forecast that the relative earnings of new college graduates would "improve moderately in the 1980s and rapidly in the later 1980s, though not to the boom conditions of the 1960s" (Freeman, 1976:187).

Selected Programs Rates of return for 1960 that are directly comparable with the 1985 results for selected programs are presented in Table 5.2. The returns for most programs have almost returned to the levels that prevailed in 1960, but some important differences remain. The private returns for male teachers and architects in 1985 are much lower than in 1960; and accountants and dentists are at about two-thirds of the 1960 level.

The major observation, however, is that the relative magnitudes of the expected returns and the ranking of programs are substantially similar in 1960 and 1985. This raises several questions about the explanations for the cyclical changes that were observed during the intervening period - particularly during the 1970s - and about the apparent long-run stability (or rigidity) in the inter-occupational structure of rates of return.

Implications for Policies and Planning The long cycle in the rates of return, from 1960 to 1985, shows the need to take a long view in planning and financing university education. During the 1960s, economists advised governments to increase investment in higher education, even "that investment in education be accorded the highest rank in the scale of priorities" (Economic Council of Canada, 1965), because the returns on this investment were higher than for most other economic activity. Governments were happy to have this rationale for educational policies that were already well under way. The result was not only a rapid increase in university enrolment, but also a substantial increase in the real expenditure per student.

But the declining returns to this investment in the 1970s caused governments to react too quickly with 'cutbacks' on educational spending, instead of recognizing that the economy needed time to adjust to the substantial increase in the supply of graduates, and to the higher average level of skills in the labour force.

Meanwhile, two basic changes were occurring in the labour market: first, the demand for graduates' services was increasing more quickly, as the result of higher consumer incomes and changes in technology; and second, the graduates of the 1960s were acquiring the experience that must complement formal education to produce the pay-off in higher earnings. By 1985, the graduates of 1965 were in their early forties and were approaching the peak earning years of ages 45 to 55. The result has been the recent rise in the return on investment in university education toward the 1960 level.

In assessing the significance of the rates of return for public policy purposes, it must be recalled that they omit any valuation of external benefits - or those

benefits realized by society, beyond any returns to education enjoyed by the individual.[18] The measured returns therefore provide a lower estimate than the true rate of return on educational investment. Even with these low estimates, however, the returns are high when compared with other uses of economic resources. With respect to the 1985 results for males, the total rate of return (12.1 per cent) can be compared with the 10 per cent rate that is used by government agencies, such as the federal Treasury Board, because it approximates the real pre-tax rate of return on private investment (Vaillancourt and Henriques, 1986). The private rates of return (14.0 per cent) can be compared with the rate of 3 per cent that approximates the real after-tax return on private capital (Burgess, 1981).

Results of estimated returns have sometimes been used incorrectly in policy proposals. The private rate of return is sometimes compared with the total rate of return. Where the private rate exceeds the total rate, the conclusion has been drawn that the individual is benefitting more than the economy, and therefore that he/she should pay a larger share of the cost. While this latter conclusion may be appropriate, it cannot be based on the simple comparison of the total and private rates. These are not directly comparable because the individual has a higher degree of risk and uncertainty, and likely has a higher rate of time preference (or is less willing to wait for the benefits), than does the total economy (Nerlove, 1972). Also, the omission of externalities from the total calculation means that this latter rate of return is necessarily underestimated.[19]

Since the differences in rates of return to different professions or fields of study persist over time and are similar in various countries,[20] there may be general factors explaining this common pattern. In strongly competitive labour

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[18] Direct measurement of most external benefits is not currently possible, but comparisons of the net present value of monetary returns to different kinds of postsecondary education could provide an indirect measure by asking whether such benefits are worth the difference between, say, a net present value of $50,000 for Program A and $40,000 for Program B.

[19] Whether the total returns are greater or less than the private returns also depends partly on the assumptions used in adjusting the lifetime earnings streams. Private rates tend to exceed total rates where earnings differentials are larger at higher ages (with higher income tax brackets) and thus where a high internal rate is required to equate earnings and costs.

[20] Returns to postsecondary education have been calculated for male graduates of various fields of study in Australia (Selby-Smith, 1975) and in the United States (Eckaus, 1974) for the late 1960s. In these studies, the net returns are highest for medicine, dentistry, and law, with engineering and commerce also having above-average returns. The lowest returns are in education and social work.

markets, the differences in net returns should be narrowed as individuals seek the highest return. But the persistent differences suggest that there are major market imperfections, or that there are systematic productivity differences between persons in different occupations. Since the highest returns are in medicine, law, and dentistry, and the lowest are in education and social work, there is also a *prima facie* case that these differences may be the result of monopolistic effects in the self-regulating professions (medicine, law, dentistry) and monopsonistic effects in the professions (teaching and social work) whose employment is almost exclusively in the public sector.

A study of occupational earnings confirms this case (Fogel, 1979). When actual earnings were compared with those predicted by a competitive human capital model, physicians were found to have a 'premium' of 20 to 30 per cent; for lawyers it was 15 to 20 per cent. Conversely, teachers and social workers earned about 20 to 40 per cent below the predicted level. (Recent unionization of teachers and public service employees, however, should have offset some of this difference.)

If these institutional effects can be interpreted as a measure of the discrepancy between earnings and the marginal social value of the graduate's labour, then the estimated rates of return to teachers and social workers should be adjusted upward accordingly. While the range of returns across various fields of study would be narrowed, a substantial difference would remain.

A major part of this difference may be related to genuine productivity differences, both in terms of variation in the number of hours worked per week and in productivity per hour. Moreover, the returns for dentistry and pharmacy include a return to the physical capital (in the form of offices and stores). But one could also argue that the investment in education in these programs was necessary in order to have access to these additional returns. Similarly, there is a return to managerial enterprise in the case of most self-employed professionals, such as lawyers and accountants, who employ paraprofessionals.

Perhaps the most significant policy implication of these rate of return comparisons is that students respond reasonably well to changes in the implied rates of return, even if they do not make explicit calculations of these rates (Berger, 1988; and McMahon and Wagner, 1981). In the early 1970s, when returns to university education were declining, enrolment also declined or grew slowly. Since then, enrolment has increased more quickly, especially in the programs with the higher expected returns. Furthermore, the recent high enrolment of female students may be attributed in part to the higher expected rate of return for women than for men in most programs.

Income Redistribution Through Higher Education

Since university education is financed largely by taxes, income redistribution occurs to the extent that some groups pay more in taxes for education than

they receive as benefits. If the net flow is from the lower income groups to the higher income groups, the effect is described as regressive. If the net flow is in the opposite direction, the redistribution is progressive. One of the basic economic goals of Canadian society, as expressed by the Economic Council of Canada, is "an equitable distribution of rising incomes". Although there is no consensus on the precise definition of an equitable distribution, numerous government programs have been implemented to reduce income differentials. Some of these are designed to redistribute income, in an effort to reduce the differences produced by the market system; other programs are designed to reduce the imperfections in the operation of markets which accentuate the income differences. Both types of public programs are used to reduce the income differentials relating to higher education.

Redistribution Across Income Groups One of the several objectives in public financial assistance for postsecondary education is to provide a subsidy to parents who otherwise might not be able to contribute to the costs of further education for their children. A substantial part of this subsidy is provided indirectly, by government grants to educational institutions. A somewhat smaller part of the subsidy is provided directly through government grants to students whose parents are in the lower-income levels. Both types of subsidies can be treated as if they were a supplement to the income of the parents concerned. Conversely, taxes paid to finance these subsidies decrease the disposable incomes of parents and other taxpayers. The net effect of such programs can be estimated in terms of the redistribution of income from one income class to another.

Estimates of income redistribution across income classes show that for postsecondary education in Canada, in 1968-69, these income transfers were "essentially 'progressive' - that is, the lower-income groups receive greater amounts in subsidies than they pay in taxes for postsecondary education, while the opposite is true for the higher-income groups" (Economic Council, 1971).

This conclusion, however, refers only to groups of families or taxpayers, rather than to individual families. The redistribution in favour of lower-income groups is actually enjoyed only by those parents with children in postsecondary institutions. Note also that the progressivity of income redistribution is based on the total of all types of institutions and programs. It appears that the small degree of progressivity can be attributed entirely to the use of the community college system by students from families with lower average incomes than in the case of university students.

A subsequent study that updated this analysis, based on university students in the early 1970s, found that the financing of universities in Canada was decidedly regressive (Meng and Sentance, 1982). In a study that dealt with income redistribution in Ontario alone, the results confirmed the continuing regressiveness of university financing:

> The principal net gainers from the university system are the middle- and upper-income groups at the expense of the lower-income groups.

> In this sense the university system is a large public expenditure program in which the relatively poor groups tend to subsidize the relatively rich (Mehmet, 1978:45. See also Mehmet, 1979).

Another study found highly regressive income redistribution in Ontario for some fields of study - such as law and medicine - at the university level (SRG, 1972). That is, the higher-income groups received a larger percentage of the subsidies to these programs than their percentage of the total taxes paid to support these programs.

There appears to have been no recent analysis of the redistributive effects of university financing, but since the sociological studies of participation rates indicate very little change in the socio-economic composition of enrolment, there would also have been little change from the earlier conclusions.

Intergenerational Redistribution Income can also be redistributed across generations to the extent that the current generation of taxpayers pays part of the educational costs of the present generation of students. The current generation of students, it is assumed, will earn higher future incomes (and pay higher taxes as a result of their postsecondary education) and presumably pay for the succeeding generation's education. But insofar as the real costs of education increase between generations (due to a larger student population, improved quality, and a longer average length of attendance in postsecondary institutions), those in the tax-paying generation contribute more to education than if they were to pay for their own generation's education on the basis of current income. Thus, the existing system of finance leads to an intergenerational redistribution of income. To the extent that real educational costs continue to rise, each generation will therefore pay more for the education of the next generation than if each generation paid for its own education.

But the assumption of increasing real costs is not essential to the argument that intergenerational transfers are regressive. This can also occur with constant costs under the existing tax system. Blaug (1982) notes that under a hypothetical, steeply progressive tax system, it would be possible "that every graduate eventually repays the cost of his own subsidized higher education out of the extra taxes paid on his augmented income", but he also notes that there is no tax system that is so progressive that graduates ever pay back the costs of their education.[21] The result is that:

> ...higher education subsidies always involve some transfer of income from the less to the more educated, from those who fail to receive higher education to those who do... The more powerful the impact of schooling on income, and the lower the rate of intergenerational

[21] Crean (1975) extrapolates cross-sectional data for Canada in the early 1960s to develop a life-cycle approach to redistribution, and concludes that there was some progressivity in university financing at that time.

mobility, the greater is the chance that higher income subsidies will have perverse effects on lifetime income distribution (Blaug, 1982).

Conclusions

Public policy on the appropriate private/public sharing of university costs should reflect, in part, the economic rationales for subsidies - to increase external benefits and to alter the income distribution.

The rates of return on investment in university education, as reported in this chapter, lead to at least three conclusions. First, the decline in the relative earnings and net returns for university graduates observed in the 1970s was a short-run, cyclical result of an exceptionally large cohort of graduates. The results reported for 1985 represent a general resumption of the long-run pattern in returns to education. Second, the high total rate of return (from the economy's perspective) indicates that a larger investment in most university programs is economically desirable. Third, the even higher rates of return for the individual graduate mean that students can be expected to continue to invest in their own education, and that society can continue to enjoy the resulting external benefits without having to increase subsidies to achieve this objective.

Moreover, since graduates from the programs with the larger total subsidies also can expect to realize higher lifetime returns than the graduates from arts and science, it might be reasonable to expect them to contribute a larger share of the instructional cost.

Finally, it appears that the public financing of university education has not achieved a clearly progressive redistribution of income (and some evidence shows a strong regressivity).

These various observations then set the scene for the next chapter to review alternative approaches to setting tuition fees.

Chapter 6

Alternative Approaches in Setting Tuition Fees

The careful development of a tuition fee policy requires that the alternatives for determining the *level and structure of fees* should be clearly distinguished from the alternatives for *financing* the students' tuition fee expenditures. These two components should be determined separately and then be blended in a combined policy. To emphasize and clarify the distinction between these two policy areas, each is treated in a separate chapter of this report.

This chapter examines various proposals that would answer the question "What is an appropriate level for tuition fees?", or phrased differently, "What should be the student's share of the total expenditure?" These alternatives are reviewed especially with reference to the social and economic objectives described in the preceding chapter.

Recommendations from Public Commissions

In an attempt to find reasonable answers to these questions, several commissions appointed by the federal and provincial governments have made recommendations concerning university fees.[1] These recommendations reflected an informed consensus and could therefore be expected to have some impact on university and/or government policy.

Three provincial commissions and a task force reported on higher education in the 1970s - Ontario (1972), Alberta (1972), Manitoba (1973) and Nova Scotia (1974). Two others reported in the 1980s - Ontario (1984) and Nova Scotia (1985); and the federal government's (Macdonald) commission on the Canadian economy and political union in 1985 added several important recommendations.

In the early 1970s, there were three general situations to be taken into account by the commissions. First, the rising real costs associated with the rapid postsecondary educational expansion of the 1960s were more widely recognized, and questioned, by taxpayers - especially in light of student unrest and higher unemployment rates for university graduates. Second, the

[1] Many other committees have also made such recommendations, but the discussion here is restricted to public commissions that have been appointed under public inquiries legislation and which have been intended to represent a consensus of widely-based public opinion and informed judgment.

provision in the Federal-Provincial Fiscal Arrangements Act of 1967, whereby the federal government contributed 50 per cent of the operating costs for postsecondary education, was due for revision in 1972 but was extended on a *pro tem* basis to 1977 so that the provincial and federal governments could seek a satisfactory longer-term solution for financing postsecondary education. Third, there appeared during the early 1970s numerous reports, proposals, and studies, dealing with the financing of higher education, that could provide informed recommendations.

Ontario, 1972 The Ontario (Wright) Commission favoured increasing tuition fees to a level that represented one-third to one-half of the instructional costs. The commission explicitly noted that this change would not affect the existing fee structure for undergraduate arts and science students because the recommended separation of research costs from the total expenditures would result in the proposed higher percentage being applied to a lower total cost for instruction. But the proposal would imply increased fees for students in the professional schools (Ontario, 1972:149). Such fee increases were to be accompanied by a grant program for students from lower income groups, and a loan program with repayment based on the graduate's income. (For a discussion of contingent repayment loans, see the final section of Chapter 7.)

The Ontario commission also commented on the proposal for free tuition that had appeared in briefs to governments from student groups during the later 1960s. The commission rejected the proposal on the grounds that: 1) it would be "inequitable" to provide such a subsidy without regard to one's financial background; and 2) that this would not solve the problem of accessibility because "students from lower-income families would continue to be under-represented in postsecondary institutions".

Alberta, 1972 The Alberta (Worth) Commission stated unequivocally that

> It is the expenses of living - not fees - that is the critical economic factor in a person's decision to enter or continue with higher education. Hence, the use of fees as a revenue source in higher education will not have a significant effect on access when an appropriate grant scheme is in operation (Alberta, 1972:289).

The commission therefore recommended that fees be raised in order to reduce the burden on the lower income groups in subsidizing the higher education of students from the higher income groups. "In the interests of equity and efficiency", the commission proposed an increase in fees to about 25 per cent of the program cost.

Manitoba, 1973 Manitoba's (Oliver) task force advocated no substantial change in tuition fees from the prevailing level of about 18 per cent of operating costs.

Nova Scotia, 1974 The Nova Scotia (Graham) Commission's recommendations related to fees were stated unequivocally: "Students should be charged the full instructional costs of their university education" (Nova Scotia, 1974:4). These were estimated to be 80 per cent of total operating costs. This reflected the commission's estimate that research accounted for 20 per cent of the universities' operating costs, except in the case of graduate, medical, and dental programs where 50 per cent of the cost was attributed to research.

Three reasons were offered by the commission for increasing student fees: 1) students are "primarily though not the sole beneficiaries of a university education"; 2) to limit or reduce provincial grants to universities; and 3) to provide a financial disincentive to students who "are uninterested in and unable to pursue the higher intellectual study that is the essence of a university education". The commission recognized that universal subsidies in the form of low fees are a more inefficient method for pursuing accessibility than are grants or subsidized loans directed specifically at the target group.

The commission acknowledged that there are external benefits ("the student is not the sole beneficiary") yet it did not advocate a public subsidy to assure the production of such externalities. In part, this followed from the commission's assumption that the demand for university education is quite inelastic, so that an increase in tuition fees from the current level to the full-cost level, accompanied by student loans, would have only a slight negative effect on enrolment, provided that other provinces adopted similar policies. The commission also believed that at current enrolment levels, the marginal external benefits were very low; it stated that "...it cannot be claimed...that a diminution of those numbers [of students]...would substantially reduce the universities' intangible contributions to society".

The principle that full-cost tuition fees, and indeed any increase in fees, must be accompanied by an expanded student aid program was repeated several times by the commission. Its recommended program would be based on loans which were interest-free until the sixth year following full-time study, and would be supplemented by grants for students from lower income families. The loans would bear interest just above the provincial government's borrowing rate; repayment would commence within one year of graduation, but would not exceed twenty years from graduation. The commission argued that the function of government is not to subsidize students' costs, "but to ensure that they do not suffer from restrictions in the capital market, which normally prevent borrowing against future earnings".

Ontario, 1984 The 1984 Ontario (Bovey) Commission based its recommendations on the overall university financial requirements and suggested a two phase approach. In the first phase, universities were to be allowed to increase their tuition fees by 7 per cent, with an amount equivalent to one-third of this increase added to the grants portion of OSAP. If the government did not provide the funding proposed for the second phase, the commission recommended that there be a further increase in tuition fees, but

"only if accompanied by an income-based contingent repayment loan plan" (Commission's own emphasis).

This increase in fees was to occur over a four-year period, by which time tuition fees would contribute about 25 per cent of the universities' basic operating income. (The commission pointed out that this ratio would be equivalent to that which existed in 1966, by comparison with the then current 16 per cent and the 38 per cent level that was reached in 1946.)

The fee increases would include a revision of the fee structure that would afford greater equity since they would more nearly reflect (a) actual differences in program costs; and (b) differences in the graduates' expected earnings. The commission also looked to the income contingent loan plan to offer greater equity to the extent that:

> Those who receive the highest financial benefit from their participation in the university system pay a larger proportion of the costs of their education, while those with lower future earnings might never repay the full cost. From the point of view of the public, such a loan program reduces in part the taxation burden on those persons who do not directly participate in the system (p. 25).

Nova Scotia, 1985 The 1985 Nova Scotia (MacLennan) Commission recommended that tuition fees be increased over a period of five years so that students "as the primary beneficiaries of their university education" would assume 50 per cent of the costs of their instruction. There would also be differences in tuition fees that would reflect differences in program costs, with at least five basic categories: arts and commerce, science and engineering, medical and other clinical, professional programs, and graduate programs. These increases in tuition fees would be accompanied by a contingent repayment loan program (Educational Opportunity Fund), but this fund would be administered using eligibility criteria in effect for the federal government's student loan program.

Canada, 1985 The Macdonald Commission considered alternative financing mechanisms to deal with four issues: the level of funding, quality, flexibility, and accessibility. In order to achieve greater flexibility and quality, the commission argued that universities should be permitted to increase tuition fees without facing a corresponding reduction in provincial grants. But the higher fees were to be accompanied by higher borrowing limits under the Canada Student Loan Plan, or by the introduction of a contingent repayment loan plan.

A differentiated fee structure was also proposed to reflect differences in program costs and to encourage diversity in the programs offered. In this case, the commission suggested that federal funds could be channelled directly to students so that "the federal government would automatically direct its support to the programs that students demand". This assistance would take the form of a voucher that the student would use to pay the (increased)

tuition fee and other academic costs and/or a tax credit for education expenses. In either case, this would replace the existing grants to provinces that were in lieu of the earlier federal support for postsecondary education.

United States, 1974 Although the preceding review of recommendations was restricted to Canadian public commissions because they were most relevant to the study, one should also consider the basic recommendation of the Carnegie Commission on Higher Education (1974) on tuition fees. This commission, after what seems to be the most thorough review ever conducted of American higher education, concluded that university tuition fees should be raised over a ten-year period until they equalled about one-third of total educational expenditures. This would restore the private/public share to its long-run level.

Public Opinion Polls on Fees and Financing

For the past decade, researchers at the Ontario Institute for Studies in Education have conducted a biennial survey of public opinion concerning education in Ontario.[2] In only a few of the surveys, however, have there been questions directed specifically to the financing of higher education. In 1978, the public was asked what sources of income should be used to support postsecondary education. The largest response, among a number of alternatives, was for student fees (26%), followed by corporation tax (22%) and other combinations (19%). When responses are analyzed by income and occupational categories, the authors observe that "the strong support by upper-income groups for increased emphasis on student fees" would imply "a differential fee structure based on ability to pay" (Livingstone *et al.*, 1979:13).

The 1980 survey asked "What would you like to see happen to the proportion of the direct costs of university education that is covered by student tuition fees?". Those favoring an increase in fees (25%) were almost as numerous as those who favored no change in fees (30%); only a small group (13%) thought that there should be a reduction in fees. (The remaining one-third of the sample who were undecided included many of the oldest or the least educated and who were uninformed about current fee levels.) There were no substantial differences with respect to age, income, etc. between the "increase" and "no increase" groups (Livingstone *et al.*, 1981).

There was no question in the 1982 survey that dealt directly with tuition fees, but a related question asked whether the universities' response to underfunding should be to reduce the number of students or to allow a decline in the quality of education (Livingstone *et al.*, 1983). The respondents clearly favored a reduction in enrolment (80%) rather than a decline in quality (9%); only a few had no opinion (11%). This was one of the clearest responses to

[2] The surveys have been conducted as part of a wider Gallup Poll and are based on a stratified sample of about 1,000 persons.

the survey's questions, and gives unequivocal public support to maintaining the quality of education.

Throughout the 1980s, in answer to the question "What would you like to see happen to government spending for universities?" the percentage of respondents who said this should increase rose steadily from 31 per cent to 57 per cent. This represents almost a doubling of support for increased government spending in the short span of eight years. Those who said that government grants should just keep up with inflation declined from 49 to 33 per cent; the proportion favouring a decrease in spending declined from 12 to 6 per cent; while the no-opinion group also declined from 8 to 4 per cent (Livingstone *et al.*, 1988).

Fee Policies in Other Provinces

The preceding sections have canvassed the views of government commissions and the general public on tuition fees and university financing. This section now reviews provincial government views or policies with respect to fees.[3]

Newfoundland Although Memorial University has the statutory authority to set tuition fees, the university and the government jointly determine the fees. These are based on two criteria: the first is that tuition fees should be approximately equal to fees in the other Atlantic provinces, after allowing for the lower per capita income in Newfoundland; the second is that fees revenue should rise from the current 12 per cent of operating revenues to 15 to 20 per cent (or the national average), "when this can be done without imposing too severe a burden of cost on its students".

Maritime Provinces The Maritime Provinces Higher Education Commission advises the provincial governments of Nova Scotia, New Brunswick, and Prince Edward Island on the financing of universities in each province. In its formula for allocating the governments' operating grants to the universities, the Commission does not take tuition fee levels into account. But it also assumes that tuition fee levels will be increased by the universities in step with inflation so that fee revenues do not decline as a proportion of their total revenues. The universities have legal authority to establish these fee levels, but they are aware that the provincial governments would not look with favour upon any sudden, large increase in student fees.

Quebec Tuition fees at Quebec universities have been frozen since 1968, in response to a government directive, 'la politique de gel des frais de scolarité'. (That is, fees have been held at their 1968 levels, with the result that inflation has reduced the real value of the fee by more than two-thirds.) Despite this government control, there is no provincial standard tuition fee for

[3] This information was obtained in correspondence with the department responsible for higher education in each province.

each program; instead, the total tuition revenue at each institution is taken into account in the calculation of the provincial operating grant. The Conseil des universités has, however, recently recommended that tuition fees be raised to a level comparable to the average in the rest of Canada (Conseil des universités, 1988).

Manitoba The provincial government in Manitoba has no formal policy on tuition fee levels since the setting of tuition fees is the legal responsibility of each university. But the Universities Grants Commission, which allocates funds among the universities, from a total amount determined by government, does take tuition revenue into its decisions.

Saskatchewan The government in Saskatchewan has no direct control of tuition fees, but it can exercise 'moral suasion' over the universities' tuition fee decisions. In 1987, for example, the government asked the universities to assure that inability to pay would not be a barrier for any qualified student, and that the students not bear a 'disproportionate share' of the burden imposed by current economic difficulties.

Alberta A formal policy on tuition fees was adopted by the Alberta government in 1982. The determination of tuition fees was delegated to the governing boards of universities, provided that the fees accord with certain qualifications, namely that:

1. Aggregate tuition fee revenue represents between 8 and 12 per cent of the university's net operating expenditures;

2. Fees for equivalent programs differ by not more than 20 per cent between universities. When the universities cannot reach agreement on fees, subject to this constraint, the Universities Coordinating Council determines the fees.

3. Tuition fees cannot be increased in any year by more than 1.5 times the rate at which provincial government grants to the postsecondary system were increased the previous year.

British Columbia The government in British Columbia does not have sanctions that it can apply against operating grants if the universities raise their tuition fees. However, the universities appear to exercise the same restraint in setting fees as those in the Maritime provinces, Manitoba and Saskatchewan since they are aware that sudden sharp increases in fees might meet with government regulation.

Fee Policies in the United States

A recent (1988) survey of public universities and colleges in the United States provides detailed evidence on the setting of tuition fees in each of the states (SHEEO, 1988). Among the major public universities, the legal responsibility

for establishing tuition fees rests primarily with the institution's governing board.[4] This is true for 42 of the 49 states, with the responsibility in three states (Connecticut, Oklahoma, and Kentucky) assigned to a state coordinating board; and the four remaining states (Texas, Washington, Nebraska, California) retaining the fee-setting power within the state legislature.

In the majority of states (29), the estimated tuition fee revenue is considered by the state budget office and/or the coordinating board in preparing state grants. In five of the states, however, fee revenues are *not* considered in determining the state appropriation.

It is perhaps more surprising to learn that in fifteen of the states, the fees are deposited in the state treasury. In most of these cases (12) the fees revenue remains in a special revenue fund from which appropriations are made to the universities; but in three cases, the fees revenue goes directly into a general or consolidated revenue fund.

Differing criteria are also used in the various states in setting the level of tuition fees. In half of the states (25), the tuition fees are established after the institutions know what level of state support will be provided. That is, the fees are set so that the estimated fee revenue will close the gap between institutional needs and state appropriations.[5]

Market forces are the predominant influence in setting fees in one-quarter (12) of the states, where there is no explicit consideration given to state appropriations. Rather, the fees "are more a matter of competitive forces and what the market will bear" (SHEEO, 1988:5). In another one-quarter of the states, the fees are established in accordance with statutes or regulations which determine the fee as a percentage of instructional costs (or the proxy for these obtained from state appropriations).

It is indicative of the financial problems that universities everywhere have faced in recent years that about one-half of the universities responding to the survey reported that tuition fees had to be increased (in real terms) to increase the quality of instruction and to compensate for decline in state support. In doing so, the universities said this had been the result of a conscious policy on the part of state governments to increase the share of

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[4] The survey reported the results for three groups of institutions: research universities, state colleges and universities, and community colleges. Only the responses for research universities are reported here because these are usually considered to be the institutions that more nearly resemble the Ontario universities.

[5] This is the converse of the situation that prevailed in Ontario prior to the implementation of a grants formula, namely that the provincial government was asked to fill the gap between the universities' needs and the other revenues.

costs borne by the students in recognition of the benefits accruing to the individual student (SHEEO, 1988).

Alternative Fee Structures and Their Rationales

The first part of this chapter has looked widely to views and experience elsewhere with respect to determining an appropriate level for tuition fees. The remainder of the chapter considers a broad range of alternative answers to the question posed at the beginning, "What should be the student's share of the total expenditure?"

The alternative tuition fee levels and structures can be summarized in the following categories:

1. Zero fee
2. Uniform (or universal) fee
3. Uniform subsidy with a residual fee
4. Existing fee structure, with uniform changes
5. Differentiated fee structure
    a. Based on benefits
    b. Based on costs
6. Full-cost fee

Each of these alternatives is considered in turn in the following sections.[6]

Zero Tuition Fee Proposals for "free tuition" were common in the 1960s and early 1970s when there was an increasing emphasis on postsecondary education as a vehicle for social mobility (Crowley, 1973). That was also a time of substantial increases in provincial income tax revenues, and increasing demands on public budgets for more support of social services, including postsecondary education. But it was soon recognized that

> ...when students are subsidized primarily through very low or no tuition, the benefits flow to all students...regardless of family income... A low tuition policy by itself tends to channel more subsidies to higher-income groups in total because more young persons attend college from these groups (Carnegie, 1974).

In addition, the increased taxes required to provide free or zero tuition would come largely from the income groups who were under-represented in the

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[6] There is another category of approaches to fee-setting that is relevant for individual institutions that have *de facto* autonomy in determining their fees. This would include residual pricing, where a fee is calculated that would close the gap between budgeted expenditures and revenues from other sources; and peer pricing, where the fee must be competitive with those at similar institutions (Litten, 1984).

university enrolment. The redistribution of income that would occur through such a policy would be highly regressive.

More recently, it has been recognized - as reported in Chapter 4 - that where tuition fees have been abolished there has been little, if any, change in the socio-economic composition of the university students. This has been true for Sweden, for Australia, and for the United Kingdom (Anderson *et al.*, 1980; Woodhall, 1989).

The ultimate criticism of a low tuition fee policy is that its true cost is unlikely to be calculated, and its effectiveness is unlikely to be compared with alternative policies. Consider, for example, the cost to the provincial budget of reducing fees by $100, or more likely, disallowing a fee increase of $100. Given a full-time equivalent undergraduate enrolment in Ontario in 1987-88 of approximately 200,000 students, this represents an additional cost to the government of $20 million if the total income for universities is to be maintained. Since only one-fifth of full-time undergraduates receive OSAP assistance, a grant of about $16 million (in the form of lower fees) goes to students who are not eligible for financial assistance. This additional $20 million would otherwise represent a 26 per cent increase over the $77 million that was expended in 1987-88 for OSAP grants to university undergraduates.

Universal Tuition Fee The notion of a single, uniform, or universal tuition fee emerges occasionally, but has not had continued support from any source. Proposals for a universal fee are generally based on a vague notion that equity would be best served if everyone paid the same fee - regardless of program, level, or university attended. But apart from its apparent simplicity, this proposal lacks any economic rationale. It bears no relationship to the costs or benefits of the program, or to any other social objective; it seems especially inequitable in light of the ratio of about 4 to 1 in the relative instructional costs between general arts and the medicine/dentistry programs (Table 3.2).

Uniform Subsidy, with a Residual Fee In a rather different approach to determining the tuition fee, it is sometimes argued that there should be a uniform per-student *subsidy* for all programs, regardless of the instructional cost. The tuition fee would therefore be the residual amount required to meet the total operating cost. Such an approach was inherent in the early proposals for voucher schemes that are described in the next chapter. In essence, the government would provide a voucher for a given amount, say $4,000, to each eligible student. The student could then use this voucher to cover part of the cost of whatever university program is selected, but the student would pay a fee equal to the balance of the cost (after the university took into account its income from other sources).

This approach was also recommended by the Macdonald Commission in 1985, as part of its proposal for funding students directly, when it said that provincial grants to universities "might appropriately be based on an equal per-student figure, without differentiation for particular programs" (Canada, 1985:822).

The rationale for the uniform subsidy scheme is that it makes a public contribution which directly recognizes the external benefits of undergraduate education. But a subsidy that is the same amount per student for all programs implies that the value of external benefits is common across all programs, and that the benefit per additional student does not decline in value with an increasing number of graduates from a given program. Although the residual amount to be paid as a tuition fee would be very large in high cost programs such as medicine, proponents of this approach would argue that the high cost programs are usually associated with high private returns to the graduates of those programs. (For example, see Tables 5.1 and A.6 which present data on the returns and costs for various programs.) Assistance for students to finance the high fees could be provided through various forms of student loans.

A variant of this approach proposes that the subsidy be a uniform *percentage* of the instructional cost per student, rather than a uniform amount. But a uniform percentage subsidy is the complement of a fee that is a uniform percentage of the total cost; this alternative is treated later in this section.

Existing Fee Structure, with Uniform Percentage Changes The most common method for setting the tuition fee is to change fees by a uniform percentage across the existing fee structure. One might say, for example, that "tuition fees should be increased by 20 per cent". This approach implies that the existing general level of fees and the differences between fees can be rationalized, and that this same rationale would require a uniform percentage increase in the fee. Such conditions are unlikely to exist.

Such an approach has an appealing administrative simplicity because it would not distort the relative incomes for programs or institutions. Any change in relative fees might alter enrolment patterns and revenues and would require institutional adjustments. It also has a political attractiveness in its appearance of equity, but like the single universal fee it lacks any economic rationale. It also has the practical disadvantage for institutions, where there are increasing proportions of enrolment in the higher-cost programs like engineering, science, and medicine, with the result that cross-subsidization from the arts programs is no longer financially feasible.

Differentiated Fee Structure Tuition fees may be differentiated to respond to any combination of "judgments about academic objectives, public goals, financial requirements, and the share of costs which should be borne by society and individual students and families" (McCoy, 1983). Fees have therefore, at various times and places, been differentiated by program of study, by level of study, by student course-load, by residency status, and by the time or place that courses are offered.

The social and economic objectives discussed in Chapter 5 can provide a cogent rationale for differentiating fees by program of study as part of an appropriate tuition fee policy. Just as undergraduate programs - such as arts, engineering, and medicine - differ in their content and purpose, so too do they

differ in their costs and the associated private and social benefits. Furthermore, the socio-economic composition of students in these programs differs between programs. To the extent that students from higher-income families are disproportionately represented in programs with the largest subsidies, the income distribution is made more regressive. For the sake of equity, it could be argued that these differences should be reflected in differences in the tuition fees. Even if the empirical evidence is too imprecise to determine the exact differential that is warranted, a reasonable degree of differentiation can be established that more closely accords with the social and economic objectives.

A. Returns-based Differentiation If it were possible to evaluate fully the social and private benefits of a program, the rate of return (as calculated in Chapter 5) or the net present value for each program would provide a measure of the net benefit associated with each university program, and would provide the most logical rationale for differentiation of fees. The higher rates of return would represent direct evidence of both the benefits received and the graduate's ability to pay. But because rate of return or net present value calculations do not as yet include all benefits, they may be used more persuasively in conjunction with data on program costs to provide further evidence for differentiation of tuition fees. Conceptually, however, the net return is a more accurate rationale. The wide and consistent variations in the rates that are presented in Tables 5.1 and 5.2 offer strong support for similar variation in tuition fees.

B. Cost-based Differentiation Some universities differentiate the tuition fees according to level of instruction, so that the fee for the freshman year is less than the fee in upper years. While this may reflect cost differences to the extent that some introductory courses can be taught in larger classes, the lower fee for the first year recognizes the student's lower earning potential in summer employment or is intended to offer additional financial inducement to enrol.

The more important direction for cost-based fee differentiation, however, is between programs rather than levels of instruction. There are alternative rationales for such differentiation. It could be argued that the higher-cost programs also have greater benefits associated with these programs. Although there is no logical necessity that this should be so (graduate programs in theology and business administration may be comparable in cost per student but differ greatly in their benefits), the evidence generally does point in this direction. In Chapter 5, it was shown (Table 5.1) that the high-cost programs such as medicine and dentistry also had the highest rates of return. However, there were anomalies, such as architecture, where the costs were relatively high but the rate of return was one of the lowest.

A more common rationale is that students should contribute a certain percentage of the cost of providing any program of study. In practice, some maximum or 'cap' is also imposed in order to avoid extremely high fees in the most expensive programs.

The historical evidence presented in Chapter 3 showed that there has always been a differentiated fee structure in Ontario, but that these differentials - notably between arts and science, engineering, and medicine - have narrowed considerably during the past forty years. While the average fee in medicine was almost double the level of the arts fee in 1950, it is now only 27 per cent above the arts fee; in the case of engineering the differential has dropped from 55 to 10 per cent.

Differential fees for law and medicine are levied at most public universities in the United States. The fee for law school exceeds the undergraduate arts fee by 10 to 80 per cent, with a mean differential of about 40 per cent; in medicine, the differential is 100 to 400 per cent, with a mean of 235 per cent (McCoy, 1983). Some of the major universities, such as Michigan and Minnesota, also charge higher fees for undergraduate business and engineering programs, with a differential of 15 to 20 per cent. Michigan and Minnesota also charge higher fees (by 10 to 15 per cent) for the upper years of undergraduate programs.

The most sophisticated development of cost-based fee differentials has occurred at the University of Minnesota (Berg and Hoenack, 1987). Although the university always had a differentiated fee structure, this was based on *ad hoc* decisions relating to general costs, labour market conditions, internal politics, and short-term revenue needs. But in 1979, the university adopted a cost-related tuition policy, which was reinforced in 1983 when the Minnesota legislature adopted a cost-related grants formula. (The latter is comparable in principle to the Ontario grants formula described in Chapter 2, with the important exception that the Minnesota formula assumes that fees will more nearly reflect a given percentage of gross instructional cost).

By 1984-85, fees had been adjusted so that most fees represented 35 to 40 per cent of instructional costs. Since this would have resulted in very large fee increases in the high cost programs (mainly in the health sciences), these were capped at 20 to 30 per cent of costs. This capping policy was based on the fees for competing programs in comparable public universities (notably the 'Big Ten'). But the capping has been intended only as an interim measure and will be removed when more adequate arrangements can be made for student financial assistance to fund the increased fees. This is to be provided through a contingent repayment loan program established by the state government for students in professional programs.

The overall result of the policy has been to increase both enrolment and revenue because there is a more inelastic demand for high-fee programs where applications continue to exceed the number of admissible students who can be accommodated, and because enrolment increased slightly in the arts programs in response to a lower fee.

Full-cost Fee It could easily be argued that the most logical approach would be to set the tuition fee equal to the total cost per student for each program. This then clearly distinguishes the determination of an appropriate

fee level from the method(s) by which externalities can be subsidized and students can be assisted in financing their tuition fee expenditures. Indeed, as noted at the beginning of the chapter, this is the reason for treating separately the alternatives for fee-setting and alternatives for student financial assistance.

With a full-cost fee structure, it would be possible to create a student assistance scheme that explicitly took account of the various objectives discussed in Chapters 4 and 5. Specific subsidies could be determined in recognition of the benefits enjoyed by society beyond the graduate's private returns; bursaries could be awarded to an range of minority groups that needed additional inducement or support, and a general loan scheme could be implemented to assist all students with tuition and other expenditures.

Other arguments are sometimes offered in support of full-cost tuition fees. These include, for example, suggestions that if students know the true cost of their education they would appreciate it more and work more diligently at their studies. But notions such as these - whether or not they have validity - are not necessary to support the case for full-cost tuition fees. This can be made on economic grounds alone.

The political reality, however, is that students, their parents, political parties, and other interested groups find it difficult to make the distinction between a tuition fee policy and a policy on student financial assistance. Even more important is the fact that the current level of subsidization of users of the university system by non-users of the system will continue to be vigorously defended by the users.

Alternative Approaches to Annual Adjustments

Where fees are determined by an undefined combination of historical, political, and economic factors, there usually are periodic adjustments to maintain the real value of the universities' operating income. Various indexes relating to changes in prices or costs could be used, four of which are examined here. These indexes are based on changes in: 1) government grants; 2) prices of goods and services used by universities; 3) consumer prices; and 4) average earnings. If a clear distinction is made between the setting of fees and the financing of fees, only the first two alternatives are relevant. But in the absence of such a distinction, all four alternatives merit attention.

Increase in Government Grants In 1980, the Ontario government announced as part of its tuition fee policy that the annual increase would be equal to the percentage increase in the government's operating grants to the university system. But there has been a change during the 1980s in the composition of government grants to the universities, with an increasing proportion of grants made through targeted (or special purpose) funding and a decline in the proportion of basic or formula grants. Consequently, the intention that this mechanism would provide an index that closely resembled changes in the universities' basic operating costs has been somewhat

contradicted by its application to a different definition of grants.[7] A similar index forms part of Alberta's tuition fee policy (described earlier in this chapter) to the extent that universities are free to set their own tuition fees provided that annual increases are held within 1.5 times the rate at which provincial government grants to the postsecondary system were increased the previous year.

Increase in Prices Faced by Universities If the intent is to adjust tuition fees in accordance with changes in the prices of goods and services purchased by universities, in order to maintain the purchasing power of their incomes, this requires the use of a university price index. (This would be a special version of the consumer price index (CPI) or the Gross Domestic Product implicit price index.) But there is a circularity inherent in this approach; the annual increases in the prices of the major services purchased by universities - faculty salaries - are determined primarily by the rate of increase in government grants. The external market forces that operate on salary determination have their effect only over the long run, when individuals make career choices about graduate training and/or employment opportunities in other sectors of the economy or in other jurisdictions. Consequently, an index of university-related prices would strongly resemble the index of government basic operating grants.

Increase in Consumer Prices If annual adjustments of tuition fees are intended to take account of the economic circumstances of students and their families, rather than to maintain the real value of universities' operating incomes, then it would be more appropriate to base the adjustments on the consumer price index. In principle, this would ensure that the price paid for university instruction increased at the same rate as prices paid for other goods and services purchased by the students and their families. But the CPI can provide only an imperfect comparison of university fees with these other prices because the CPI is based on the 'shopping basket' or average composition of items purchased by all families (and other persons) and therefore will not represent exactly the families of university students, and certainly will differ from the expenditure patterns of the students themselves. Nonetheless, it should be evident that, if there is no change from the current approach to fee-setting, the CPI merits attention when annual adjustments to the fees are being determined.

Increase in Average Earnings Finally, if the annual adjustments are intended to take account of changes in the incomes of students, and particularly their families' incomes, the more appropriate index to use is the Industrial Aggregate average earnings. This shows the changes in the

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[7] For example, the provincial government grants to universities in 1989-90 were 7.5 per cent greater than the total grants in 1988-89, but this included a grant to increase the number of places rather than the total expenditure per place. But the formula fee was increased by 7.5 per cent nonetheless.

weighted average earnings of all employees in Canada (or by province) and provides a readily available measure of changes in the ability of families to finance expenditures out of current income.

Alternative Fee Structures for Ontario

From all of the foregoing discussion on alternative approaches to fee-setting, including the views of royal commissions and public opinion, and the experience in other jurisdictions, the major guidance or direction seems to be that the student's private benefits would justify a higher fee. But the specific values of fee increases or differentials based on this criterion are not so readily apparent.

Consequently, two alternative approaches are selected to illustrate the substantial differences in fees that can result from such different approaches. One method is to increase fees by a uniform percentage from the existing level. The other method is to set fees at a uniform percentage of the total cost of instruction.

The fees that result from applying these methods are shown in Table 6.1. When fees are increased by a uniform percentage, the absolute differential does not change substantially. That is, a 15 per cent increase in fees is an increase of $213 in the lowest fee compared with an increase of only $269 in the highest fee. When the fees are increased by 30 per cent, the resulting increases range only between $424 and $538.

A much different effect emerges when the fees are determined as a percentage of the total instructional cost. This cost is calculated from the Ontario government's grant per student for each program, to which is added the actual tuition fee. While this does not represent the actual full cost of instruction in any particular program and institution, it does reflect the cost to the government (and to the economy) for an additional student in that program.

If tuition fees were to be set at 25 per cent of the instruction cost, the fee for honours arts, commerce, and law would increase by about $400. But the increase for honours science, pharmacy, and education would be $875. Surprisingly perhaps, the increase for engineering and architecture would be less, at $785.

The increase for medicine and dentistry would be about $3,500. This illustrates both the need to consider a cap on fees for high cost programs, and a need to be certain that the instruction costs are calculated in a comparable fashion for each program.

Because fees have never been directly related to instructional costs by program, there has not been a need to consider whether the implicit instruction cost was an accurate estimate of the true cost. Two major components of this cost, however, are unsponsored research (the research not

Table 6.1

Alternative Tuition Fee Structures, 1988-89

Program of Study [1]	Actual Fee	Increase from Actual 15%	30%	Percentage of Full Cost [2] 25%	50%
Group 1	1,411	1,623	1,834	1,319	2,638
Group 2	1,411	1,623	1,834	1 803	3,605
Group 3	1,411	1,623	1,834	2,286	4,572
Group 4	1,531	1,761	1,990	2,316	4,632
Group 5	1,794	2,063	2,332	5,281	10,562

1 Group 1: General arts and science, journalism
Group 2: Honours arts, physical and occupational therapy, library science, physical and health education, fine and applied arts, commerce and business, law
Group 3: Honours science, forestry, music, pharmacy, agriculture, education, nursing
Group 4: Architecture, engineering
Group 5: Medicine, dentistry

2 Full cost estimates represent the government's total grant (per basic income unit multiplied by the program weight), plus the actual tuition fee. See Table 3.2.

funded from other sources) and the overhead costs of research that is partly sponsored by governments or industry. Although there has been a traditional argument that research contributes directly and substantially to the quality of teaching, this linkage needs to be examined more rigorously. If there were a separation of the teaching and research expenditures, the differentials between the science-based and the arts-based program would likely be narrowed. This would similarly reduce the fee differentials to levels that might be more acceptable in a political context.

Summary and Conclusion

This chapter has explored various approaches to determining the level and structure of tuition fees, as distinguished from methods for financing these and other student expenditures. The consensus that emerges from the recommendations of several public commissions is that tuition fees should contribute about one-quarter to one-third of the total revenue for undergraduate education. (In each case, the need for adequate student financial assistance was emphasized.)

Recently, commissions have also urged governments to give universities more flexibility in setting their fees. Ontario and Quebec are the only provinces where the provincial government effectively controls the fee for each program, but universities in other provinces are also subject to various degrees of government control. Nowhere in Canada are the universities able to exercise fully the autonomy entailed in their legislative authority to determine their fees.

The most common approach to adjusting fees in North America has been to apply a uniform percentage increase to the existing fee structure. While this causes the least disturbance to the system, there is increasing recognition that this approach is both inefficient and inequitable. The strongest alternative is the differentiation of fees by program, in accordance with differences in the instructional costs. This is more equitable, not only on the basis of benefits received, but also as the preceding chapter indicated, with respect to the graduates' ability to repay student loans from future earnings.

Chapter 7

Financing Students' Tuition and Other Costs

Students had traditionally financed their university education with their own savings and employment earnings, together with contributions from their parents. Since the mid-1960s, government assistance in the form of grants an loans has become more important for students from the lower-income families. There is considerable debate, however, on whether parental contributions ought to be specified in government grants programs; on how cost-effective grants are in increasing educational opportunities for financially disadvantaged students; on whether students would assume a higher debt load, or are already incurring too great a debt load.

This chapter reviews the arguments and evidence relating to each of these issues, analyzes the impact of changes in tuition fees on the current student assistance program, and then discusses alternative proposals for financing students' tuition and other costs. These include prepaid tuition plans, student vouchers, and contingent repayment loans.

Conventional Sources For Student Financing

One-half of the financing for full-time undergraduate education in Canada is provided by the income that students earn during the summer and/or part-time employment (Abt Associates, 1986). Contributions from families, government grants, and other non-repayable awards add a further 25 per cent of the income, while loans constitute the remaining 25 per cent. About three-quarters of these loans are from student loan plans; most of the other loans are from parents since private bank loans account for less than 5 per cent of the total borrowing.

Students' Employment Income and Parental Contributions The major source of students' funds is their own employment during the academic year and the summer months. But there is little reliable evidence on the amounts earned, and saved, by students in different educational levels, programs, income-groups, or genders. Data are collected each summer by the Statistics Canada labour force survey on students' participation and unemployment rates, but these are not reported separately by type of institution. The 1983-84 national postsecondary student survey asked about, but did not report on, summer employment experience of students.

Parents have been another traditional source of financial support for university students, but some parents are not in a position to make a substantial

contribution from their savings. An extensive survey of college students' families in the United States showed that about one-half of the families who contributed to their children's college education did so by drawing on current income rather than using previous savings (Miller and Hexter, 1985a and 1985b). It was also found that income levels alone do not determine parental contributions: for any given income level, the contribution was greater the higher the parents' level of education. And contrary to conventional wisdom, the concurrent enrolment of siblings does not appear to affect parental contributions (Leslie, 1984).

But the basic political and economic question remains whether the specification of a parental contribution has a place in student aid programs. In Sweden, for example, students are assumed to be financially independent from the age of 19, so no account is taken of parental income (Woodhall, 1988). Considerable inequity between students arises when parents' assets and/or income cannot be determined with any reliability; when an increasing percentage of students are from divided families, with various economic commitments; and when there appears to be more variation in parent-student relationships. In a detailed analysis of the student grants program in Britain, where a parental contribution is specifically assumed in calculating the grant, it was found that at least half of all students' parents were either unable or unwilling to pay the full parental contribution (Woodhall, 1989).

A similar increasing gap between the expected and actual parental contribution in the American system of student aid has been attributed to three related factors (Johnstone, 1986). There are parents who simply refuse to contribute to their children's educational expenses, parents who are divorced or separated - which complicates the determination of ability to pay and the arrangements for contributions - and parents whose willingness to contribute to their children's college education has diminished, in the belief that the state should bear a larger share.

Grants Most student grants programs are inefficient in promoting increased accessibility because the financial benefit goes to many students who would have enroled in the absence of such incentives. Jackson (1978) reported that to increase the enrolment in higher education in the United States in the 1970s, by means of a $500 increase in financial aid to each student (such as a reduction in fees), the cost actually amounted to $9,200 for each *additional* low-income student, compared with $3,000 for a well-targeted aid program. Although these numbers would not necessarily apply to Ontario's university system in the late 1980s, they do emphasize the inefficient effect of direct student aid to increase enrolment. Furthermore, the major student aid program in the United States - the Basic Educational Opportunity Grant (BEOG) - has been found to have little effect on enrolment in four-year colleges for any family-income group, but the program did increase enrolment from low-income families in two-year colleges and vocational-technical schools (Manski and Wise, 1983).

The most damning criticism of a general grants program, as a means for extending accessibility to lower-income groups, comes from the United Kingdom where there has been a generous grants program since 1962:

> Far from ensuring a high rate of participation in higher education and equality of opportunity, the system of mandatory grants has resulted in a more restrictive higher education system in Britain than in most other developed countries (Woodhall, 1989).

A comparison is made with Japan and the United States, where there are tuition fees and heavy reliance on loans, but where the proportion of high school graduates entering higher education is more than double the proportion in the United Kingdom.

Furthermore, within this lower enrolment rate, there is an uneven participation by socio-economic groups. In the late 1970s, 57 per cent of the male sons of persons in the professions enroled in university, and 80 per cent entered some form of full-time higher education. But only one per cent of the daughters of unskilled workers went on to higher education (Atkinson, 1983).

Student Loans Students are unique participants in the credit world. Private student loans differ from other loans because the borrower can offer no direct security other than the prospect of a higher income in the future. For any given individual, this can be a very uncertain prospect. Moreover, student loans are issued in relatively small amounts, with small annual repayments to be processed at relatively high administrative costs. These unusual administrative and risk factors dictate such a high interest rate that few students would be able to borrow in the private capital market.

Consequently, some third-party - whether it be parents, colleges, or governments - must act as guarantor for student loans. Advocates of more student aid in the form of grants rather than loans have argued that students are reluctant to accept a debt obligation, particularly if they are from a lower-income family. However, Porter, Porter and Blishen (1973) found that students from lower-income families in Ontario are more prepared to borrow to finance their education than students from higher-income families. Furthermore, the amount that students were prepared to borrow, within each socio-economic level, was related to their level of academic achievement - those with high grades were prepared to borrow more than those with low grades. As the authors conclude, this study "casts doubt on the argument that low income students would be more reluctant to borrow".[1] More recently, it has been reported that:

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[1] Although this study, the Survey of Ontario Students' Aspirations, was conducted nearly two decades ago (1971), its results remain important because it dealt directly with the post-high school plans of Grade 12 students, and was able to analyze separately the attitudes toward university financing of those students who aspired to a university education.

> In all countries where loans are available, women and low-income students are willing to borrow. What matters are the terms of the loan, especially the degree of subsidy and the repayment terms (Woodhall, 1982).

The final section of this chapter considers an alternative approach - contingent repayment loans - whereby students collectively act as guarantors by mutualizing the risk of default for any given individual.

In a recent article, a leading authority on student financial assistance notes that "the last few years have seen increased reliance on loans in many countries" (Woodhall, 1989), although the proportion of student aid represented by loans varies widely among countries. Japan is the only major developed country that relies exclusively on loans. Although Japanese students pay tuition fees in both public and private universities,[2] the majority receive no financial assistance; only 12 per cent of the students receive assistance, which is in the form of means-tested loans.

The most substantial shift to loans has been in West Germany, where the all-grant program created in the early 1970s to increase accessibility was converted in 1984 to an all-loan program. Although students continue to pay no tuition fees, the conversion to means-tested loans, increased restrictions on eligibility for loans, and a capping of university facilities and faculty has reversed the effect of the reforms in the 1970s. Indeed, it appears that the policy has shifted from favouring an open, comprehensive university model to one favouring status differentiation and a corps of prestige institutions (Johnstone, 1986).

In Sweden - as in France, Germany, and most of the European Community - there are no tuition fees. As was noted in Chapter 4, however, Sweden has found that this policy has not led to the improvement in accessibility and equality of employment opportunity that was expected. Consequently, the combined grant and loan scheme that it introduced in 1965 had gradually become an all-loan scheme by 1988. A new loan scheme, implemented in 1989 in order to recapture larger repayments from higher-income graduates, is described in the final section of this chapter.

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[2] In Japan, the average tuition fee at public universities in 1988 was equivalent to about $1,800 (UK, 1988); in 1980, this fee had been about $650; other fees and academic expenses were $700, and room and board was $1,800, resulting in total direct expenses of $3,150 for the average student (Jolivet, 1985). At the private universities (where 76 per cent of the university students were enroled) the tuition fee in 1980 averaged $2,200; and the total direct expenses were $4,555. (At that time, the income per capita in Japan was about 80 per cent of the income level in Canada.) The average total costs for students at all Japanese universities doubled between 1974 and 1980, and had increased fourfold since 1968 (Jolivet, 1985).

Since most loan schemes include a public subsidy component - through lower interest rates, deferred repayment periods, or conditional forgiveness of debt - there has been increasing pressure to ration the availability of loans according to academic merit or financial need (Woodhall, 1988).

Ontario Student Assistance Program (OSAP)

The Ontario Student Assistance Program consists of three basic components: the Ontario Study Grant (OSG), Canada Student Loan (CSL), and Ontario Student Loan (OSL).[3] The grant portion (OSG) is calculated first, to a maximum of $2,500 or $3,500 per term, ($5,000 or $7,100 per academic year), depending on the status of the student as defined by the OSAP criteria.[4] The loan portion (CSL) is calculated next, and is intended to cover any of the student's actual expenses that are not included within the allowable expenses on which the OSG grant is based. The provincial loan (OSL) is designed to meet still further expenses not covered by the CSL and, in particular, to provide for students who are no longer eligible for the OSG because they are beyond their eighth term (or fourth academic year).

Since the full amount of the tuition fee is an allowable expense for calculating the OSG, and since these grants are calculated first in determining a student's total assistance package, any increase in the tuition fee would be covered by the OSG portion.[5] Although the OSAP acts in this way to cushion low-income students and families from increases in fees, it is doubtful whether high school students know that this is the case.

Even if students are aware that financial assistance is available to eligible applicants, it is also doubtful whether they are aware that all educational costs are taken into account and that a grant covers all of the assessed need in the majority of cases. Moreover, for those students who are well informed on the OSAP scheme, there is uncertainty to the extent that a student does not know, at the time when specific university plans are being made, what amount of

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[3] The OSAP also includes the Ontario Special Bursaries Plan and the Ontario Work-Study Plan but these have accounted for less than 2 per cent of the annual OSAP expenditures.

[4] All provinces other than Ontario first calculate the amount of the Canada Student Loan, to the maximum permitted amount of $105 per week of study, or $3,780 for a two-term academic year. Any assessed need in excess of the CSL amount is provided through the provinces' own grants and/or loans.

[5] It has therefore been suggested by some sceptics that previous provincial governments have resisted increases in tuition fees, not because these might have an adverse effect on accessibility, but in order to avoid an increase in OSAP expenditures.

financial aid would be available. This asymmetry in the perception of increases in fees and in equivalent student aid has been a universal problem in designing student aid programs:

> A major problem...is how to make financial aid as certain as tuition. It is often said that price is known but financial aid is a guess (Curry, 1988).

The effectiveness of OSAP in overcoming financial barriers may also be undermined to the extent that students and their parents perceive (perhaps wrongly) that OSAP amounts are inadequate in assisting lower-income students.

Effect of Fee Increases on the OSAP Budget Estimates of the impact of any change in tuition fees at Ontario universities necessarily must be based on crude assumptions because no quantitative model has been developed by the Ontario government, or by the universities, to simulate alternative policies with respect to fees and/or student assistance. Nonetheless, it is possible to generate approximate estimates that may be illuminating in this preliminary examination of alternative fee policies.

Since all students who now receive an OSG grant would receive the full amount of any increase in the tuition fee, an estimate can be found from the number of grant recipients. In 1987-88, there were 36,480 university students in Ontario who received an OSG grant (Ontario MCU, 1989). For each $100 increase in tuition fees there would therefore be an increase of about $3.65 million in OSG grants. This would be the minimum amount because some students who now qualify only for CSL loans - because of their personal means - would become eligible for some grant.[6]

The impact of a fee increase on the total value of loans (both CSL and OSL) is more difficult to determine because there is no existing data base that identifies students who are at the margin of eligibility for OSAP, particularly as defined by their families' incomes. There were, however, about 17,800 students who were not eligible for grants but who received loans. For these students, their loans would increase approximately by the amount of the fee increase; but some of the fee increase might be covered by a grant for those students who are eligible. If all of the increase were reflected only in increased loans, each $100 increase in fees would increase the value of loans awarded by at least $1.78 million. The government's cost, however, would increase only by the amount of the subsidy and defaults associated with these loans.

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[6] It has been suggested, however, that the actual fees could be permitted to rise, while holding formula fees constant, and require that OSAP cover only the formula fee. The difference would be provided to the OSAP-eligible students by the university.

These calculations, however, are aggregative across all university programs and levels. To show how differential fee increases could impact on the total budget for the OSG grants, Table 7.1 presents data on the OSG values for Group A (financially dependent) students in different programs. Alternative fee levels are assumed, from no fee at all to a fee that is set at 50 per cent of the university's total direct cost of instruction, for arts and science, engineering, business, and medicine. As the last section of the preceding chapter showed, fee variations based on the current fee level result in very little differentiation of fees because the current levels differ so little. But when the fees are based on the total cost of instruction that is implied by the provincial funding formula, substantial differences occur.

A fee increase of 15 per cent above the current fee level would increase OSG expenditures for Group A students by $5.2 million. This can be compared with setting fees at 25 per cent of full cost, which would entail an additional $7.1 million for the OSG fund.

The increase in the OSG grant expenditures can be compared with the actual cost of this program. In 1987-88, the OSG grant allocation - for Group A (financially dependent) students only - totalled $60.7 million. (Total loans for this group amounted to $46.2 million for CSL and $2.2 million for OSL.) An increase of 15 per cent in tuition fees would have therefore increased the total OSG expenditures for Group A students by approximately 8.6 per cent. Since the Group A students represented 71 per cent of grant recipients in 1987-88, the total impact of a fee increase would be greater than indicated here, but the percentage increase in the OSG fund would be comparable.

Efficiency of Fee Increases Any increase in the total OSG grants that results from an increase in tuition fees should be compared with the increase in total revenue generated for the universities. Under any assumptions, there will be a substantial net transfer from students and their families to the public sector through this mechanism. Only 19 per cent of the full-time university students received assistance in the form of OSG grants or a mix of grants and loans in 1987-88. Approximately 97 per cent of these students were enrolled in undergraduate programs (Ontario MCU, 1989). This means that for every five dollars raised through increased tuition fees, only one dollar is added to the cost of the OSG program. This is clearly a more efficient method for a government to transfer funds from private sources to the universities than by increasing general tax revenue to make direct grants to the universities. In the case of the fee increase, revenues are raised from the major beneficiaries and there is an automatic protection of low-income families and students from this increase through the established student assistance program.

Indebtedness of Graduates

The major concern relating to student loans has been the size of the debt carried by recent graduates. Although the average indebtedness varies by type of institution and program, some general patterns can be observed. Data on students' indebtedness to all sources of both public and private lending can be

Table 7.1

Impact of Alternative Fee Levels on Ontario Study Grant Expenditures for Group A (Financially Dependent) Students,[1] 1988-89

Fee Level	Arts and Science	Engineering	Business	Medicine
Non-fee expenses [2]	$1,015	$1,165	$1,165	$1,165
Current Fee	1,411	1,531	1,411	1,794
Full Cost Fee [3]	6,514	9,263	7,210	21,124

Increase in OSG Expenditure per Recipient for Alternative Fee Levels

No Fee	-1,411	-1,531	-1,411	-1,794
15% Increase in fee	212	230	212	269
30% Increase in fee	423	459	423	538
25% of Full Cost	218	785	392	2,041 [4]
50% of Full Cost	1,846	2,304 [4]	2,194	2,041 [4]
Full Cost	2,574 [4]	2,304 [4]	2,424 [4]	2,041 [4]

Total Increase in OSG Expenditure (millions of dollars)

Fee Level	Arts and Science	Engineering	Business	Medicine	Total
Grant Recipients [1]					
Number (1987-88)	19,654	2,160	2,107	133	24,054
No Fee	-27.7	-3.3	-3 0	-0.2	-34.2
15% Increase in fee	4.2	0 5	0 5	*	5 2
30% Increase in fee	8.3	1 0	0 9	*	10.2
25% of Full Cost	4 3	1 7	0.3	0.3	7.1
50% of Full Cost	36 3	5.0	4.6	0.3	46.2
Full Cost	50.6	5.0	5.0	0 3	60.9

1 Group A students represented 71 per cent of total grant recipients. The Arts and Science category includes all residual programs.

2 Allowable expenses minus expected contributions from student and parents, excluding tuition fee, are based on average family income and average allowable expenses for grant recipients.

3 Full cost is based on the Ontario government's grant per basic income unit multiplied by the program weight, plus the actual tuition fee. The full cost for Arts and Science is a weighted average for formula groups 1, 2, and 3.

4 The fee plus non-fee expenses exceed the $5,000 maximum for the Ontario Study Grant in these cases. Additional fee expense is covered by a Canada Student Loan or Ontario Student Loan.

* Less than $0.1 million.

Source: Ontario Student Awards Branch, Ministry of Colleges and Universities.

obtained only through periodic student surveys. In the most recent such survey (1983-84), 48 per cent of all full-time undergraduates in their final year at Ontario universities reported that they had borrowed at some time during their program (Porter and Jasmin, 1987). The median amount borrowed was $5,500 (or $6,600 in 1989 dollars), but almost one-half (47 per cent) of the borrowers had incurred a debt of less than $4,000. About one-tenth had borrowed more than $12,000.

Three-quarters of the borrowers obtained loans only from the student loan plans, another 15 per cent borrowed from both the loan plans and other sources, while the remaining 10 per cent borrowed only from other sources. Of the students who did not borrow (52 per cent), about four-fifths said that they did not require this assistance, while only 10 per cent said they had avoided borrowing because they did not want to carry a debt.

About one-third of Ontario's full-time undergraduates borrow from the government student loan plans (CSLP or OSLP). Students who graduated from Ontario universities in 1987-88 with a bachelor's degree in arts and science, and who had borrowed from the Canada Student Loan Plan in their final year, had an average accumulated loan of $7,000. Law school graduates owed $10,100 on average; and graduates of medicine and dentistry owed an average of $12,400 and $13,500 respectively. (See Table 7.2.) But the range in the size of the accumulated debt is also important. In the case of arts and science graduates, almost 40 per cent of the borrowers had an accumulated debt of less than $5,000, while almost 25 per cent had a debt of more than $10,000. (See Table 7.3.)

There seems to be no systematic study of those graduates who have the largest debt loads. While it is obvious that students in longer, more expensive programs will accumulate larger debts, it would also be useful to know whether they can be defined by a set of characteristics such as age, sex, or marital status. This could assist in determining whether the CSLP offered too little or too much for certain groups, and whether their prospects for repayment differed from the total group of borrowers.

Criteria for Assessing Debt Load If it is suggested that the students' debt load is too high, this begs the question of appropriate criteria for judging the degree of indebtedness. Parenthetically, one should also ask whether the debt load is too small in some cases, where students are not permitted to borrow more.

There are several criteria that might be applied, both with respect to individual students and to the entire Canada Student Loan Program:

1. Does the student have complete financing for all reasonable costs?
2. What is the graduate's ability to repay relative to the size and term of the consolidated loan?
3. Is the interest rate on the loan less than the expected return on the investment in education?

Table 7.2

Indebtedness under Canada Student Loans Program for Students[1] in Final Year of Undergraduate Program, Ontario Universities, 1987-88

Program of Study	Number of Borrowers	Average Debt
Arts and science	8,013	$ 7,079
Engineering	969	7,220
Medicine	399	12,352
Dentistry	71	13,472
Other health sciences	625	8,177
Law	778	10,125
Agriculture and related	142	7,852
Education	1,578	6,914
Business and commerce	834	7,092
Total	13,409	$ 7,497

1 Due to the CSLP accounting and recording procedures, only students who borrowed in the final year are included; students who may have incurred a debt in earlier years but not in the final year are not included. This likely results in an overstatement of the average indebtedness of graduating students.

Source: Canada. Secretary of State. Education Support Branch. Student Assistance Directorate (special tabulations).

Table 7.3

Arts and Science Final-Year[1] Students' Average Indebtedness by Debt Size, Canada Student Loan Program, Ontario Universities, 1987-88

Indebtedness	Percentage of Borrowers	Average Debt
Less than $1,000	3	$ 643
1,001 to 2,500	10	1,735
2,501 to 5,000	26	3,716
5,001 to 10,000	37	7,316
10,001 to 15,000	19	12,011
More than 15,000	5	17,664

1 Due to the CSLP accounting and recording procedures, only students who borrowed in the final year are included; students who may have incurred a debt in earlier years but not in the final year are not included. This likely results in an overstatement of the average indebtedness of graduating students.

Source: Canada. Secretary of State. Education Support Branch. Student Assistance Directorate (special tabulations).

4. What is the overall default rate, and the government's total cost for the program?
5. How effective is the loan program in achieving the objectives for student financial assistance, when compared with other forms of student assistance?

Financing For All Costs The first item in this list - complete financing of reasonable costs - seems to have been the dominant criterion used during the past two decades in setting the maximum debt load for individual students. While there may be disagreement about what constitutes reasonable costs and appropriate contributions from other sources, the current loan limits seem to be roughly correct for the majority of unmarried undergraduates. For minor groups, such as married students in graduate or professional programs, it is more difficult to assess their true needs. In these cases, however, the accessibility objective has been achieved; the public policy concern at this stage is only to assure the availability of financing. To this extent, the interest subsidy could be reduced, the repayment period extended, and the loan limit increased, by comparison with loans for undergraduates.

One should also be concerned that some students might not borrow enough, or indeed not at all. They try to get along by reducing expenses and/or taking part-time jobs during the academic year. Both of these are often counterproductive academically and are inefficient means for financing education in the long run. Reducing expenses may mean buying second-hand, out-of-date textbooks; not purchasing supplementary course materials; and even enduring poor dietary and accommodation arrangements. Part-time jobs reduce the time available for more reflective study and often result in absences from lectures, tutorials, or laboratories.

Ability to Repay The ability to repay varies greatly among individuals, but presents no difficulty for the average graduate and the graduating class as a whole. With an accumulated loan of $7,000, and at an interest rate of about 10 per cent,[7] the average annual payment for ten years would be about $1,000. This can be compared with an average annual income of $20,000 to $40,000[8] for university graduates during the first ten years following graduation. Loan repayments would constitute 4 to 5 per cent of gross income in the early years. But earnings increase (in real terms) more quickly between ages 25 and 35 than they do for higher age groups, so that by the end of the ten-year period,

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[7] The interest rate on Canada Student Loans is set annually by the federal government, usually approximating the prime rate. For 1988-89, the CSLP rate was 10.5 per cent. The interest rate on Ontario Student Loans is the prime rate plus one per cent.

[8] Earnings data are for university graduates in all occupations, obtained from the 1986 census, and are adjusted to 1988 dollars. Average earnings for male graduates rose from $19,000 at age 24 to $41,000 at age 33. For female graduates, the increase was from $16,000 to $30,000 over the same age span.

loan repayments would be only 2 to 3 per cent of gross income in the final year.[9] (This would be equivalent to about 3 to 4 per cent of after-tax income.) These repayments can also be compared with the repayment of automobile loans that would require 10 per cent of the same annual income since these loans would bear a higher interest rate and would likely have to be repaid within three years.

Repayments as Percentage of Earnings Other authors have used similar comparisons of indebtedness and expected earnings to propose guidelines for establishing maximum borrowing limits for student loans (Hansen and Rhodes, 1988). Danière (1969) defined a manageable debt level as one that would require annual repayments of up to 6.4 per cent of gross income, while Hartman (1971) proposed that repayments could equal 15 per cent of the graduate's starting salary. This would imply a somewhat higher level of debt than Danière's proposal, when earnings are considered over a 10-year repayment period. Hartman's estimate has a stronger economic rationale in that he argues the after-tax differential earnings between college and high school graduates can be used to repay the debt incurred to attend college. Finally, Hansen and Rhodes (1988) consider alternative rationales and arrive at 10 to 15 per cent of before-tax income as the range of manageable repayment rates. Even when the higher income-tax rates in Canada are taken into account, the Ontario data on student loans suggest that students are well within these estimates for manageable indebtedness.

Expected Rate of Return There is another perspective on debt load that is almost never considered, namely "Is it worth it?". Is the expected rate of return to the student's investment in education at least equal to the cost of borrowing? Estimates of the private rates of return to university education recently have been in the range of 10 to 20 per cent, and have been based on only the direct monetary benefits (Table 5.1).

Default Rates The term 'default rate' has been applied to different stages in non-repayment of debts. At one end of the scale, defaults are equated with arrears, where the debtor has simply been slow in making periodic payments. But default also differs from the final stage where the outstanding amount is regarded as uncollectible and is written off as a bad debt. A default normally occurs when the loan is mature (or due for repayment in full), but is not paid. In terms of the CSLP, the default occurs at the time claims are made by the banks against the government's guarantee of repayment.

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[9] This repayment program as a percentage of average gross income compares closely with similar estimates for the federal Guaranteed Student Loan Program in the United States (Hansen and Rhodes, 1988). In that case, the maximum allowable loan of $12,500 required a repayment in the initial years of about 9 per cent of gross earnings.

The Federal-Provincial Task Force on Student Assistance reported that the experience for the CSLP for 1964 to 1980 showed a default rate of about 9 per cent of the borrowers and about 7 per cent of the value of loans due for repayment. The default rates for the federal Guaranteed Student Loan Program in the United States were in the range of 4 to 6 per cent during the early 1980s (despite the recession and high inflation which resulted in high unemployment and a decline in real earnings); in this case, the default rate allowed for repayments from borrowers who were in arrears (Woodhall, 1988). This default rate was comparable to the experience with other federally insured credit programs. In Japan, the default rate has ranged between 3 and 5 per cent during the past decade.

Default rates on student loans are often compared with the default rate for consumer credit or ordinary personal loans, but one should not expect the default rate on student loans to be as low as default rates associated with other personal loans. Most new graduates have no experience with credit, especially with the importance of maintaining good credit ratings; and as new entrants to the labour market, the ability to pay, for some of them, is limited. This is precisely why a guarantee is required. If the conditions were different, the normal default rate would be incorporated in the interest rate, and the guarantee would not be required. The Task Force concluded that "loan default rates are not unduly high and do not point to widespread repayment problems".

In the end, one must look at the net repayments. The Task Force reported that "the amount ultimately requiring write-off to date [1980] is about 1% of the value of default claims paid". Note that this is one per cent of claims paid, or less than 1/10 of one per cent of the total value loaned. (This is also the percentage written-off due to all non-repayment of debts incurred with Visa and Mastercharge cards in Canada in 1983, including losses through fraud and theft.)

Efficiency of Loans The final criteria are concerned with the government's budgetary priorities and the cost-effectiveness of student loans as a means for achieving policy objectives in postsecondary education. When the cost and effectiveness of grant and loan programs are being examined, there is generally little attention given to the real marginal costs of each feature of the loan plans and the benefits associated with them.

One illuminating example of a government's cost in providing student loans has been calculated for the National Direct Student Loan Program in the United States. There it was estimated that the federal government spends $54 to provide $100 worth of loans to students (Johnstone, 1977). The features of that program impose higher costs for the government than does the CSLP, but the results for Canada likely would not be substantially different.

When the true costs of the loan program have been determined, the effectiveness of various assistance programs can be compared. Since a major policy objective is to increase postsecondary enrolment from the lower-income

families, the enrolment effect of $1,000 in loan costs should be compared with an additional $1,000 grant directed to a more specific population group. This same question is put by Johnstone (1977:41), in writing about the policy issues in student loans:

> If, as many suspect (and no evidence suggests otherwise), enrolment is more responsive to grants or even to the availability of loans than to relatively small differences in interest rates, then we ought to consider reducing interest subsidies and reallocating these amounts to the grant programs. Similarly, it might be shown that enrolment or persistence or some other more ultimate 'effectiveness' criterion would be better served by federally funded forgiveness of repayments in the event of low future earnings of the borrower than by interest subsidies based on the income of the borrower's parents.

Conclusions The Federal-Provincial Task Force on Student Assistance concluded in its 1980 report that "debt loads were generally not high and did not create problems for many students", and that "the areas of study where debt loads are highest are also those where graduates are likely to have highest incomes following graduation and be most able to repay".

After a detailed examination of the borrowing patterns of four-year college students in the United States, it was concluded that:

> The seriousness of the excessive debt problem appears to have been exaggerated both by the frequent handwringing of college officials and other higher education commentators, and also by the occasional horror stories about students with exceptionally large debts. What surprises us is how little students borrow on average in light of the heavy costs of completing a four-year degree program - just over half borrow and the average accumulated debt is well under half the GSL [Guaranteed Student Loan] maximum (Hansen and Rhodes, 1988:110).

Tax Deductions and Credits

The income taxation system in Canada had, prior to the tax reforms of 1988, included an asymmetric treatment of investment in human and physical capital. Expenditures for the latter received generally favourable tax treatment through a variety of amortization or 'write-off' arrangements to create tax deductions or credits. The expenditures for investment in human capital in the form of postsecondary education were given very limited exemptions through the tax system. Tuition fees were deductible from income only by the student, the great majority of whom did not have sufficient income to make use of this benefit. An education allowance (which reflected some fraction of the costs for room, board, supplies, and transportation) of $400 per student/year could be claimed by a student, or be transferred to a parent or guardian, as a deduction from taxable income.

The tax provision for tuition fees therefore provided financial assistance and incentives for very few students, and the education allowance was more beneficial to the higher income groups. Under the 1988 tax reform, however, both the tuition fee and the education allowance ($480 per college year) are treated as tax credits, and thus are equally beneficial at all income levels. Moreover, these credits are used first to reduce the student's tax liability to zero, with the balance of the credit transferable to a supporting parent or guardian.

Vouchers for Student Subsidies

Vouchers have long been proposed as a method to provide public subsidies to education through individual students, rather than directly to educational institutions. It is expected that this would make institutions more responsive to private preferences and perhaps more sensitive to changing labour markets. Vouchers are also directly related to a consideration of alternative tuition fee policies. It could be decided, for example, that universities should be permitted to increase their tuition fees substantially - perhaps even to equal the full cost of instruction - and that any public subsidy could be provided by vouchers or grants to students rather than to the institutions. The value of the voucher could vary - expressed as a percentage of the fee, or be a flat sum for all undergraduates.

Rationale The voucher proposal originated with Tom Paine in *The Rights of Man* (1792) as a method for financing a universal schooling system. More recently, the notion was developed by Milton Friedman (1955) as a method for providing public funds to education, but which could be supplemented by parents' own contributions to improve the quality of the system. Variations on the voucher plan subsequently appeared in the United States as responses to dissatisfaction with the quality and accessibility of the public elementary-secondary system. A few experiments with vouchers were undertaken in the early 1970s but there has been no general implementation of such a scheme (Cohn, 1979).

Although the voucher schemes have been proposed primarily for the elementary-secondary level, they would seem to be more applicable at the postsecondary level where there is so much more diversity in terms of institutions and programs and where, therefore, centralized decisions are more apt to result in inequity and/or inefficiency. Proponents of vouchers see them as a means for incorporating public subsidies into a market mechanism for decision-making (Peacock and Wiseman, 1964). But restrictions might be placed on the vouchers that could have an even stronger steering effect than the existing direct government grants. In particular, the terms or values of vouchers could influence students in their choice of program or length of study.

Vouchers for Federal Funding Vouchers have been proposed in Canada primarily as a method for the federal government to contribute to postsecondary education (CEIC, 1981; and Johnson, 1985). Since it has been

prevented in recent years from making grants directly to universities by the provinces' constitutional responsibility for education, an alternative approach is to fund students directly. This was recommended most recently by the Macdonald commission when it suggested that vouchers would:

> ...divert federal PSE [postsecondary education] support from lump-sum EPF [Established Programs Financing] grants to direct aid to students, in such a way that provinces would have an incentive to respond by increasing tuition fees (p. 749).

The effect of federal government vouchers would depend on whether they were "neutral" or "biased" (Nowlan and Lang, 1984). That is, a federal voucher would b neutralized if the tuition fee was increased, and the provincial grant was decreased, by the amount of the vouchers. This would have no other effect than to transfer federal funds directly to the universities. But a federal voucher could have a bias or influence, for example, if the value of the voucher exceeded the increase in tuition fees so that student enrolment was increased or redistributed between programs.

Vouchers in the Ontario System In the existing Ontario university system, however, there would be very little difference between a voucher scheme and a simple, enrolment-based grants formula, if the vouchers were provided by the provincial government and were redeemable only at Ontario universities, and if the value of the voucher varied with the program of study. This would have the same general effect on universities, in terms of the size and stability of income, that followed from the original grants formula that was described in Chapter 2. One important difference, however, would be that any institution could establish new programs to compete for students' vouchers, unless the government restricted the location of programs as well as universities at which vouchers could be redeemed. Obviously, the greater the number of such restrictions, the less effective would a voucher scheme be in achieving the original objective of promoting efficiency and diversity through competition among universities.

A voucher scheme would also have a major, potential disadvantage for the Ontario university system, where most of the universities have large-scale research programs that are only partly funded by research grants and contracts. To the extent that the value of vouchers was related to an estimate of instructional costs, and especially if they were provided only to undergraduate students, universities would be enticed to emphasize the undergraduate programs at the expense of the graduate programs and research activities.

Prepaid Tuition Fees

The Michigan Guaranteed Tuition Plan A program for the prepayment of university tuition fees (the Michigan Educational Trust Bill) was introduced by the state of Michigan in 1986 and became fully operational in 1988. The program is a simple one: parents make a payment of US$6,800 per newborn

child to a state-created education trust, and in return are guaranteed that if their child is admissible, he or she will receive four years' tuition at a public university in Michigan (THES, 1988b; and Knight and Knight, 1989). (Parents of older children pay proportionately more since the investment's earning period is shorter.) Parents are therefore spared the problem of investing in such a way that their private education fund would cover both real and inflationary increases in tuition fees. If the child does not attend a postsecondary institution in the state, the principal sum is refundable. By September, 1988, more than 82,000 families had begun to contribute to the Michigan trust. (A lump-sum payment is not required; the st. provides low-interest loans for families so that the payment can be made on a monthly basis.)

The federal revenue service has ruled that the up-front payment is a taxable gift, so that future students could be taxed on the earnings of the trust when the tuition payments are made on their behalf. (But a substantial lifetime tax credit against estate and gift taxes would offset this tax exposure for most students.) Moreover, there may be future pressure on the public universities to maintain lower tuition fees than economic conditions would necessitate, so that states would be able to meet their guaranteed tuition commitment. Students' choices of colleges would also be influenced to the extent that the tuition guarantee would apply only to public colleges, but the refund of the principal sum would be available for study elsewhere.

Despite some scepticism that the fund managers may not be able to earn a high enough return to cover increasing tuition costs, the concept has attracted widespread attention elsewhere in the United States. By 1988, four other states (Florida, Indiana, Tennessee, Wyoming) had passed similar legislation for guaranteed tuition programs and more than 20 others were considering similar plans (SHEEO, 1988). None of these other states, however, was planning to guarantee fully prepaid tuition fees.

Private Prepaid Tuition Plan A similar plan, but for private universities, was proposed a decade earlier (Bolch and Hinshaw, 1977). Universities would sell 'tickets' for future tuition at current tuition rates. The ticket would not guarantee admission, but it could be sold to an admissible candidate or refunded under the conditions of sale. The financial viability of the scheme rests on the simple assumption that the revenue from current ticket sales can be invested at a rate of return exceeding the rate of increase in tuition fees, (and that the institutions would continue to be tax-exempt). The authors note that in addition to the obvious advantages to the universities, parents of prospective students who enrol in an instalment purchase agreement would have the dual advantage of a guaranteed tuition price and a forced-saving program; but there also needs to be an assurance that they are not taxed on the increased value of the tuition fee.

Registered Educational Savings Plan (RESP) The Michigan plan, and the proposed private plan, closely resemble the educational savings plans that have existed in Canada for several years. Parents can contribute annually to a

registered savings plan on behalf of a designated child who will have his/her tuition paid at any Canadian university or college. Repayments in the case of children who do not attend a postsecondary education are usually limited to the original principal. The tuition payments are taxable income for the student, but this is offset by the student's tax credit for tuition fees.

Tuition Savings Plans By 1988 four of the American states had passed legislation implementing a state-based savings plan to finance future tuition payments, but without a guaranteed tuition fee. Several other states were considering a variety of measures to assist parents in saving for their children's postsecondary education. These plans are generally based on state-issued bonds with tax-exempt interest accumulation (THES, 1988b).

Contingent Repayment Loans

Any financial barriers to university education may be eliminated, without producing the regressive redistributive effects from low tuition fees and other subsidies, by introducing contingent repayment loans for students. Under this plan a government agency would make loans to students for their direct costs of education. On completion of the program, the graduate would pay some fraction of his/her annual earnings until the loan was repaid or the remaining balance was forgiven. Such programs have been advocated frequently during the past two or three decades, and a major program of this kind has recently been initiated in Australia. This new program is outlined in a later section of this chapter and the details are provided in Appendix C, but first it is useful to review the development and general features of this concept.

Evolution of the Contingent Repayment Loan Concept The original proposal for a contingent repayment loan plan was advanced more than three decades ago by the economist and Nobel laureate, Milton Friedman, who argued that an imperfect capital market led to underinvestment in human capital (Friedman, 1955). He proposed that the government establish an agency that would make loans to students to finance their education; in return, the graduate would pay some fraction of the portion of annual earnings which could be attributed to one's higher education. This payment would be combined with the personal income tax returns to reduce the administrative costs of the program.

Friedman's proposal was advanced in modified form by other economists but it was not until 12 years after Friedman's initial proposal that the concept received widespread public attention. A Presidential Advisory Committee in the United States recommended that an Educational Opportunity Bank (EOB) be established by the federal government (U.S., 1967). This Bank would borrow from the capital market at government rates, and then make loans to students, regardless of their financial means, up to a maximum which would cover tuition and living costs. The graduate would pay a specified percentage (3 per cent was suggested) of his/her annual gross income for each $10,000 borrowed, for a specified number of years. A graduate could complete the

required payments in a shorter time, when the total payments were equal to the principal plus accumulated interest.

In 1968, the Carnegie Commission on Higher Education recommended that a federal contingent repayment loan scheme be created in the form of a National Student Loan Bank (Carnegie Commission, 1968). The Commission's proposal was quite similar to the EOB scheme, but was intended to supplement rather than replace the several other means for financing higher education. Soon thereafter, a U.S. government report also proposed that a National Student Loan Bank be established (U.S., 1969). Repayments would vary as a graduate's income rose or fell, but a portion of the loan would be cancelled in any year that the borrower's income fell below a certain level. Repayments would be made over a period of 30 years.

A proposal for a contingent repayment loan plan was presented in a report to the Ontario government in 1969 (Cook and Stager, 1969; and 1970). Since that time, there have been several similar proposals in various publications of federal and provincial commissions or committees. (See, for example, Ontario, 1984; Nova Scotia, 1985; and Canada, 1985.)

Major Features of a Contingent Repayment Loan Program The major parameters of a contingent repayment loan program are: 1) the ceiling on the amount borrowed (and eligibility conditions); 2) the percentage of annual income to be paid; 3) the interest rate; 4) the length of repayment period; and 5) conditions by which repayment of the outstanding balance can be accelerated. These could be varied to make the program self-financing or to introduce whatever degree of subsidy might be intended.

A contingent repayment loan program could include the following general features:

1. Any postsecondary student could receive a loan equal to part or all of the educational costs.
2. The student's loan would state the conditions of repayment, including the percentage of annual gross or taxable income to be paid; the number of years for which payments would be required; and the interest rate to be applied.
3. An individual who, because of low earnings, had not repaid an amount equal to principal plus accumulated interest by the end of the repayment period (say 30 years) would not be required to make further repayments.
4. Students or graduates who left the province or country would be required to continue payments under the general provisions of income tax legislation or international tax treaties.
5. Persons who were not in the labour force (for example, due to permanent disability or for short-term childcare) would not be expected to make payments.
6. The program could be administered by an independent agency that would establish a fund from which it made loans directly to students.

7. Initially, funds would be raised by issuing government bonds and later through payments received from graduates.
8. The agency could administer a means test, provide grants, subsidize the fund, or vary its activities in a number of ways.

One of the most important implications of the program would be that any risk in this method of borrowing would be borne by the graduates collectively, and ultimately by the general public, rather than by the individual. However, the public would bear this risk:

> only to the extent that an individual graduate does not realize notable monetary benefits from his education. An added benefit of the program is that it also relieves the taxation burden from those members of the community who have never participated directly in the postsecondary system (Ontario CFDUO, 1984).

The program would also free the student from financial dependence on his or her family. The importance of this feature was recognized clearly by the Macdonald Commission when it stated that a contingent repayment loan plan:

> ...removes the necessity to consider ... whether or not a student could be supported by his or her parents. The provision in the current CSLP [Canada Student Loan Plan] arrangements that requires this information has always been difficult to administer, and many students have learned to manipulate it to minimize the cost of loans to themselves, whatever their family financial situation. The income-contingent/repayment feature does not require any 'needs' test before the loan is granted, since repayment will be tailored automatically to post-education income, and not to current need (Canada, 1985:751).

Certain criticisms have also been directed at the proposed scheme. The fear has been expressed that students would hesitate to take on a repayment 'burden' lasting for twenty or thirty years. But the distinction between a contingent repayment plan and a fixed-debt plan must be made clear: unlike fixed-debt obligations that require fixed payments at fixed intervals, the contingent repayment system allows for low or irregular payments in response to low or irregular incomes. In addition, provision can be made for individuals who earn high incomes to leave the scheme at an earlier date.

A variation of the contingent repayment loan plan is a 'hybridized' scheme based on two loan contracts (Johnstone, 1972). The first would be a fixed-debt plan but with annual payments based on expected annual income for the first ten to fifteen years of employment. The second contract would provide a 'cushion' if the income failed to reach the expected level so that the projected repayment exceeded a predetermined maximum percentage of income. Any amount by which the required repayment exceeded this maximum would be deferred and entered as principal in the second contract.

If one's income later increased, one would be able to pay the expected primary amount and possibly some of the accumulating debt in the second contract. But if one's income continued at a low or zero level, the debt accumulated in the second contract over, say, 25 to 30 years would be forgiven. The advantages of this scheme are that it makes clear that high-income earners are not expected to subsidize the low-income group; it also makes clear the nature of income-contingency in the form of a supplementary cushion; and it allows the government to determine directly the cost of student assistance in this form.

Contingent repayment plans can be viewed as an arrangement whereby a given generation finances its own postsecondary education rather than relying on the political willingness or taxability of the preceding generation. This aspect is of considerable importance where there are major demographic changes such as the postwar baby boom or the subsequent sharp decline in birth rates.

Contingent Repayment Loans in Australia A contingent repayment loan scheme was introduced in Australia in January, 1989, by the commonwealth (federal) government. This followed a fifteen-year period of experimentation with alternative financing arrangements. Until 1974, tuition fees at Australian universities had been comparable in amount to those at Ontario universities. Fees were then abolished in 1974 in an effort to induce greater participation by minority groups. But by 1980, it was reported that there had been little change in the socio-economic composition of the undergraduate enrolment (Anderson, 1980 and 1983). In 1987, the government levied a $250 'higher education administration charge' (HEAC), which was to be indexed for inflation. Since the government could not easily rescind its free tuition policy, the HEAC fee was said to provide for the cost of student registration.

In mid-1988, however, at the governing Labour Party's national conference, the delegates decided to terminate the free tuition policy by a vote of 56 to 41 (THES, 1988a). This opened the way for the government to introduce a new program for financing undergraduate studies. Tuition fees would not be imposed 'up front' but there would be a 'pay later' arrangement based on the contingent repayment loan concept (Australia, House of Representatives, 1988).[10]

Under the Australian plan, there is an imputed annual Higher Education Contribution (HEC) or postponed tuition fee of A$1,800, regardless of the

[10] The Australian minister responsible for the program has written to all higher education students to inform them how the scheme would operate. This should reduce some of the opposition to the scheme that is usually associated with a misunderstanding and fear of the unknown. A copy of the minister's letter is included in this report as Appendix C.

course of study.[11] This fee becomes a debt, indexed to inflation, but there would be no requirement to make payments related to this debt until one's personal taxable income reached A$22,000 (also indexed for inflation). Repayment of the accumulated debt is to be made through the taxation system at the rate of one per cent of personal taxable income for those with incomes in the A$22-25,000 range, 2 per cent for incomes in the A$25-35,000 range, and 3 per cent of incomes above A$35,000.

These payments continue until the debt is fully repaid, but the debt will be cancelled on the death of the graduate. All students, whether or not they complete a degree program are included in the scheme. A discount of 15 per cent is granted to persons who pay the full amount of the imputed fee for each semester or year as they proceed through their programs. Receipts from the HEC Scheme are placed in a trust fund account to be used only for higher education. (This plan does not apply to students in most graduate courses, for whom the fees already are at least 20 per cent of the course costs.)

This plan is a slightly modified version of a scheme that had been proposed by the (Wran) Committee on Higher Education Funding (1988) under which graduates would pay a uniform 2 per cent of their taxable incomes, when these exceeded the average income for the Australian labour force, until the accumulated real value of these payments amounted to 20 per cent of the estimated cost of their own undergraduate program. The Wran proposal therefore emphasized a program-differentiated tuition fee, while the government's scheme levied a uniform fee but introduced a progressive repayment structure.

Contingent Repayment Loans in Sweden A contingent repayment loan program was also introduced in Sweden in January, 1989. This too followed a period of considerable change in the financing of university education. (Although there are no tuition fees, Sweden's very progressive tax structure on income and wealth means that there is less likely to be a regressive redistribution of income through this form of subsidy. That is, while there is a high proportion of students from higher-income families, these families also contribute a larger share of the tax revenues.) The maintenance grants that were introduced in 1977 had not been increased in line with rising educational costs, to the extent that they represented only 6 per cent of student financial assistance by 1988. In 1989, the amount of the grant was increased, in part by reducing the implicit subsidy in the previous loan plan. The overall effect would be to increase subsidies to the lower-income students, and to reduce the subsidies at the upper-income levels.

Under the new contingent repayment program, graduates would begin to repay loans within a year of completing their programs. The interest rate would still be subsidized - by charging only 50 per cent of the government's

[11] The Australian dollar has traded recently (1988-89) between C$1.05 and 0.90.

borrowing rate - but the annual repayment would be 4 per cent of the preceding year's gross income. These repayments would continue until the principal and interest were repaid, but any remaining balance would be forgiven at age 66 or in the case of death or permanent disability. It is expected that:

> Persons with large incomes will in the majority of cases pay off their loans in a shorter time than at present, due to an increase in annual instalments. For those with smaller incomes and heavy debts, repayment will be a good deal less burdensome (Sweden, 1988).

Proposed Plan For New Zealand In 1988, a working group on post-compulsory education appointed by the New Zealand government endorsed the contingent repayment loan scheme recommended by the Wran committee in Australia (Hawke, 1988).[12] The report noted that the particular merits of the contingent repayment loan plan:

> ...are that it provides for funding from students independently from their family or other guardians or support groups, while ensuring that repayments are required only when they have income levels which enable them to be sustained.

A subsequent government report, *Learning For Life* (1989), adopted the essential features of a contingent repayment loan plan (THES, 1989). Under this scheme, the universities would charge a tuition fee equivalent to 20 per cent of the average cost of instruction. All students would be eligible to borrow this amount as an interest-free loan, which would then be repaid when the graduate was earning more than the national average wage (or about NZ$25,000 in 1988-89). Loan repayments would be limited to 3 per cent of the graduate's annual gross income.

Deferred versus Contingent Repayment: the United Kingdom The government of the United Kingdom issued a white paper in 1988 that presented two radical proposals for financing university education (United Kingdom, 1988). First, the universities would charge full-cost tuition fees, with the government then funding students directly by a voucher system. But the vouchers would not cover the full cost of the new tuition fees. Rather, the vouchers would replace the maintenance grants currently paid on behalf of students to the universities.

The value of the means-tested maintenance grant (or voucher) and the imputed parental contribution would be frozen at their current levels. Students' further financial requirements would be met by a government loan. This would be up to £420 per year, at a zero real rate of interest, with the

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[12] The Hawke report was also influenced in this endorsation of a contingent repayment loan plan by the report of the Universities Review Committee that had made a similar proposal for such loans (NZURC, 1987).

loan ceiling increased each year to offset the declining real value of the grant and parental contribution, until the loan equalled the value of the latter two contributions. The loan would be repaid after graduation, but repayments would be deferred if a person's income dropped below 85 per cent of the average earnings for the labour force. For students with special financial needs, there would continue to be discretionary bursaries administered by the government.

Graduate Tax Interest in a contingent repayment loan plan originally emerged in the United Kingdom in the form of a 'graduate tax' (Glennerster *et al.*, 1968). This would be an additional tax placed on graduates of postsecondary institutions, but it would not be related to any specific loan or imputed fees. Rather, the tax would simply be intended to increase the state's general revenue by increasing the contribution from persons who had earlier received subsidies through the state support of educational institutions. Although this proposal differs fundamentally from the contingent repayment loan schemes because no repayable principal is specified, both proposals received public attention and each was often confused with the other.

The most recent proposal for a graduate tax has come from the heads of universities in the United Kingdom (Committee of Vice-Chancellors and Principals) in response to the government's white paper on university financing (CVCP, 1989). Their strongest objection was to reliance on student loans with fixed repayment provisions. In their place, the university heads have argued that there should be a "graduate contribution" in the form of tax on graduates earnings. Such a tax would be 1) payable only if the graduate's earnings were greater than "average earnings"; and 2) payable only for a finite period of time - with a suggested period of ten years. Such a proposal differs therefore from the other contingent repayment loans in the important respect that repayments are not related to the original borrowings or imputed tuition fees.

Concluding Summary

This chapter has examined alternative methods for financing tuition fees and students' other educational expenses. Conventional financing of tuition fees has included the private income of students and their parents, together with government grants and loans. But whether parental contributions have a place in student aid programs is questioned more frequently, given the changing family structures and relationships. Student grants are inefficient in promoting increased accessibility to universities because the financial benefit goes to many students who would have enrolled anyway. Although it has been argued that students are reluctant to accept a debt obligation, student borrowing has increased steadily with the increased availability of government loans.

Since any increase in tuition fees would be covered by OSAP grants for eligible students, each $100 increase in tuition fees would result in an increase of about $4 million in OSG grants. But this increase in grants should be compared with the increase in total revenue that would be generated for the

universities: for every five dollars raised by the universities through increased tuition fees, only one dollar is added to the government's cost of the OSAP program. Thus, fee increases accompanied by a full OSAP offset for eligible students is a more efficient and equitable method for the government to transfer funds from private sources to the universities than is increasing general tax revenue to make direct grants to the universities. In the case of the fee increase, revenues are raised from the major beneficiaries, and there is an automatic protection of low-income families and students from this increase through the established student assistance program.

Student loans have been increasingly proposed in several countries as a method to assure wider and more equitable accessibility. The major concern has been the debt-load incurred by students, but actual data on their indebtedness indicate that ability to repay is not a major problem for the average graduate.

Contingent repayment loans currently are proposed or have been implemented in several countries. The regressive redistributive effects from low tuition fees and other subsidies may be eliminated by such loans, whereby repayments are proportional to a graduate's earnings. Any risk in this method of borrowing would be borne by the graduates collectively, and ultimately by the general public, rather than by the individual. Under contingent repayment plans, a given generation finances its own postsecondary education rather than relying on the political willingness or taxability of the preceding generation - and rather than having to finance the following generation.

That there is a clear need for a thorough review of Ontario's tuition fee and student assistance policies in a wider context should be evident from the historical patchwork that has led to the current policies. The federal and provincial student assistance programs were introduced prior to the Ontario government's funding formula, and therefore prior to the control and standardization of tuition fees. But these programs and the funding formula have been adjusted intermittently, with only a brief review of their interactions. The purpose of this report therefore has been to provide a substantial review of research and policy alternatives that could be helpful in re-examining Ontario's tuition fee policy within a longer and wider perspective.

Appendix A Supplementary Data

Table A.1

Tuition Fees (Excluding Incidental Fees) in Current Dollars, University of Toronto, 1929-1949

Academic Year Beginning	Arts	Medicine	Engineering	Consumer Price Index (1981 = 100)
1929	90	200	200	18.5
1930	90	200	200	18.4
1931	90	200	200	16.6
1932	120	200	200	15.1
1933	120	200	200	14.3
1934	120	200	200	14.6
1935	120	200	200	14.7
1936	145	250	225	15.0
1937	145	250	225	15.4
1938	145	250	225	15.6
1939	145	250	250	15.5
1940	150	275	250	16.1
1941	150	275	250	17.0
1942	150	275	250	18.0
1943	150	275	250	18.1
1944	150	275	250	18.3
1945	150	350	250	18.4
1946	150	350	250	19.0
1947	150	350	250	20.8
1948	180	400	300	23.8
1949	180	400	300	24.5

Sources: Annual calendars of the Faculties, University of Toronto (University Archives).

Table A.2

Tuition Fees (Excluding Incidental Fees) in Current Dollars, Arts, for Selected Universities, Ontario, 1950-1988

Academic Year Beginning	McMaster	Ottawa	Queen's	Toronto	Western Ontario	Average
1950		200	200	180	205	196
1951		200	230	240	240	228
1952		210	230	242	240	231
1953		210	230	242	265	237
1954		210	280	242	265	249
1955		210	280	300	268	265
1956		210	280	300	293	271
1957		275	330	335	293	308
1958		300	330	335	336	325
1959		325	365	370	376	359
1960		325	365	370	416	369
1961	428	375	410	410	416	408
1962	428	375	410	410	416	408
1963	428	400	480	410	416	427
1964	428	450	480	410	464	446
1965	460	450	480	470	464	465
1966	460	450	500	470	464	469
1967	460	460	500	470	464	471
1968	480	460	500	470	489	480
1969	480	460	500	470	489	480
1970	485	465	500	470	489	482
1971	485	465	500	470	489	482
1972	585	565	600	570	589	582
1973	585	565	600	570	589	582
1974	585	565	600	570	589	582
1975	585	565	600	570	589	582
1976	585	565	600	570	589	582
1977	685	665	700	675	689	683
1978	685	665	700	675	691	683
1979	720	698	735	710	726	718
1980	810	773	845	835	817	816
1981	936	773	930	915	919	895
1982	1,049	1,049	1,049	1,050	1,049	1,049
1983	1,100	1,102	1,101	1,103	1,102	1,102
1984	1,155	1,155	1,156	1,157	1,157	1,156
1985	1,214	1,215	1,215	1,215	1,212	1,214
1986	1,263	1,264	1,264	1,265	1,264	1,264
1987	1,349	1,350	1,350	1,350	1,350	1,350
1988	1,410	1,411	1,411	1,410	1,411	1,411

Source: Annual calendars of the Universities.

Table A.3

Tuition Fees, (Excluding Incidental Fees) in Current Dollars, Medicine, for Selected Universities, Ontario, 1950-1988

Academic Year Beginning	Ottawa	Queen's	Toronto	Western Ontario	Average	Consumer Price Index (1981 = 100)
1950	325	365	400	425	379	25.2
1951	375	365	400	475	404	27.9
1952	375	365	400	475	404	28.5
1953	375	365	400	500	410	28.3
1954	375	425	485	500	446	28.5
1955	375	425	500	508	452	28.5
1956	475	425	500	533	483	28.9
1957	475	500	500	533	502	29.8
1958	475	500	550	536	515	30.6
1959	500	550	600	576	557	31.0
1960	550	550	600	626	582	31.4
1961	550	550	650	626	594	31.6
1962	575	550	650	626	600	32.0
1963	575	620	650	626	618	32.6
1964	625	620	650	674	642	33.2
1965	625	625	700	674	656	34.0
1966	625	625	700	674	656	35.2
1967	695	625	700	674	674	36.5
1968	630	625	700	674	657	38.0
1969	630	625	700	674	657	39.7
1970	635	625	700	674	659	41.0
1971	635	625	700	674	659	42.2
1972	735	725	800	774	759	44.2
1973	735	725	800	774	759	47.6
1974	735	725	800	774	759	52.8
1975	735	725	800	774	759	58.5
1976	735	725	800	774	759	62.9
1977	835	825	900	874	859	67.9
1978	835	825	900	875	859	73.9
1979	877	870	945	920	903	80.7
1980	952	1,020	1,089	1,040	1,025	88.9
1981	952	1,150	1,198	1,170	1,118	100.0
1982	1,335	1,335	1,335	1,335	1,335	110.8
1983	1,402	1,401	1,402	1,402	1,402	117.2
1984	1,472	1,471	1,472	1,472	1,472	122.3
1985	1,545	1,546	1,545	1,546	1,546	127.2
1986	1,608	1,608	1,607	1,608	1,608	132.4
1987	1,718	1,718	1,718	1,718	1,718	138.2
1988	1,796	1,794	1,794	1,794	1,795	144.0

Source: Annual calendars of the Universities.

Table A.4

Tuition Fees, (Excluding Incidental Fees) in Current Dollars, Engineering, for Selected Universities, Ontario, 1950-1988

Academic Year Beginning	McMaster	Ottawa	Queen's	Toronto	Western Ontario	Average
1950		270	325	300		298
1951		270	340	300		303
1952		290	340	383		338
1953		290	340	3		338
1954		325	400	[illegible]		369
1955		325	400	450		392
1956		325	400	500	333	390
1957		350	450	500	408	427
1958		400	450	500	411	440
1959		425	480	550	451	477
1960		425	480	550	501	489
1961	513	450	500	600	501	513
1962	513	500	500	600	501	523
1963	513	500	570	600	501	537
1964	513	500	570	600	549	546
1965	545	550	575	650	549	574
1966	545	550	575	650	549	574
1967	545	600	575	650	549	584
1968	545	535	575	650	549	571
1969	545	535	575	650	549	571
1970	545	540	575	650	549	572
1971	545	540	575	650	549	572
1972	645	640	675	750	649	672
1973	645	640	675	750	649	672
1974	645	640	675	750	649	672
1975	645	640	675	750	649	672
1976	645	640	675	750	649	672
1977	745	740	775	850	749	772
1978	745	740	775	850	745	771
1979	780	775	810	895	780	808
1980	880	910	920	922	880	902
1981	1,014	838	1,010	1,014	990	973
1982	1,140	1,139	1,139	1,140	1,140	1,140
1983	1,196	1,197	1,196	1,198	1,197	1,197
1984	1,256	1,259	1,256	1,257	1,256	1,257
1985	1,320	1,320	1,319	1,320	1,319	1,320
1986	1,373	1,373	1,372	1,373	1,372	1,373
1987	1,468	1,466	1,465	1,466	1,466	1,466
1988	1,531	1,532	1,531	1,531	1,531	1,531

Source: Annual calendars of the Universities

Table A.5

Forgone Earnings for University Undergraduates, by Age and Gender, Ontario, 1985

Age	Actual [1]	Ability Adjusted [2]	After Tax [3]	Part-time Earnings [4]	Forgone Earnings Private [5]	Forgone Earnings Total
			Males			
19	4,550	5,300	5,300	2,000	3,300	3,300
20	6,450	7,500	7,500	2,500	5,000	5,000
21	8,500	9,900	9,400	3,000	6,400	6,900
22	10,700	12,400	11,400	3,500	7,900	8,900
23	13,150	15,300	13,600	4,000	9,600	11,300
24	15,500	18,000	15,750	4,500	11,250	13,500
25	17,800	20,700	17,700	5,000	12,700	15,700
			Females			
19	3,900	4,300	4,300	1,500	2,800	2,800
20	5,300	5,800	5,800	1,800	4,000	4,000
21	6,700	7,400	7,400	2,200	5,200	5,200
22	8,400	9,200	8,800	2,600	6,200	6,600
23	10,200	11,200	10,450	3,000	7,450	8,200
24	11,550	12,700	11,700	3,400	8,300	9,300
25	13,550	14,900	13,200	3,800	9,400	11,100

1 Mean annual employment income of high school graduates

2 Actual forgone earnings increased by 16 per cent for males and 10 per cent for females.

3 Adjusted for federal and provincial (Ontario) income tax.

4 Mean summer employment earnings, reduced by 20 per cent for unemployment and non-participation.

5 Private forgone earnings are net of income tax.

Source: Statistics Canada. *Census of Canada, 1986*, special tabulations.

Table A.6

Private Costs for Selected University Programs, Ontario, 1985

Program	Fees [1]	Books Supplies, Other Expenses	Mean After-tax Forgone Earnings [2]	Mean Annual Costs	Total Program Costs [3]
Arts and Science	1,400	1,000	5,650	8,050	32,200
Commerce	1,400	1,000	5,650	8,050	32,200
Social Work	1,400	1,000	4,550	6,950	27,800
Nursing	1,400	1,000	4,550	6,950	27,800
Pharmacy	1,400	1,000	5,650	8,050	32,200
Law	1,400	1,000	7,250	9,650	57,900
Engineering	1,500	1,100	5,650	8,250	33,000
Architecture	1,500	1,100	6,440	9 040	45,200
Medicine [4]	1,800	1,450	7,250	10,217	61,300
Dentistry [4]	1,800	2,600	7,250	10 983	65,900

1 Includes tuition and incidental fees.

2 Data are for males for all programs except Social Work and Nursing. Costs for females in the other programs would differ in accordance with the differences in forgone earnings shown in Table A.5.

3 Mean annual costs multiplied by length of program: Law, Medicine, and Dentistry are 6 years; Architecture is 5 years; all others are 4 years.

4 Mean annual costs for Medicine and Dentistry are based on direct costs for 2 years of Arts and Science and 4 years of Medicine or Dentistry, plus forgone earnings for ages 19 to 24

Table A.7

Total Costs for Selected University Programs, Ontario, 1985

Program	Students' Costs Direct [1]	Students' Costs Indirect [2]	Institutional Costs Direct [3]	Institutional Costs Indirect [4]	Annual Total	Program Total [5]
Arts and Science	1,000	6,025	6,090	3,650	16,765	67,060
Commerce	1,000	6,025	6,090	3,650	16,765	67,060
Social Work	1,000	4,650	6,090	3,650	15,390	61,560
Nursing	1,000	4,650	7,650	4,590	17,890	71,560
Pharmacy	1,000	6,025	7,650	4,590	19,265	77,060
Law	1,000	8,150	6,090	3,650	18,890	113,340
Engineering	1,000	6,025	7,750	4,650	19,425	77,700
Architecture	1,100	6,480	7,750	4,650	19,880	99,400
Medicine [6]	1,450	8,150	13,650	8,190	27,257	163,540
Dentistry [6]	2,600	8,150	13,650	8,190	28,023	168,140

1 Includes books, supplies, and transportation.

2 Mean annual forgone earnings from data for forgone earnings by age in Table A.5. Data are for males, with the exception of Social Work and Nursing. Forgone earnings for females in other programs are shown in Table A.5. Before-tax earnings are used in order to capture total cost.

3 Fee revenue, plus government grant per basic income unit multiplied by program weight: Nursing, Pharmacy, Engineering, and Architecture = 2.0; Medicine and Dentistry = 5.0; all others = 1.5.

4 Indirect costs (depreciation, forgone interest, forgone taxes) are estimated as 60 per cent of the direct costs.

5 Mean annual cost multiplied by length of program: Law, Medicine, and Dentistry are 6 years; Architecture is 5 years; all others are 4 years.

6 Mean annual student and institutional costs for Medicine and Dentistry are based on costs for 2 years of Arts and Science and 4 years of Medicine or Dentistry.

Appendix B OCUA Tuition Fee Advisory*

79-IV Tuition Fee Policy for the Ontario University System

Introduction

This memorandum is in response to the Minister's letter of May 10, 1979 requesting advice on several aspects of tuition fee policy. In preparing this memorandum, Council has been aided by the tuition fee briefs that it received through the Ministry and also by discussions at Council's 1979 Spring hearings. Council has restricted its deliberations to what it believes to be the immediately critical aspects of tuition fee policy. These are: (1) accessibility and financial assistance as they relate to tuition fees, (2) the concept and the level of formula fees, (3) the indexing of fees, and (4) institutional autonomy in setting tuition fees.

One aspect of university[1] tuition fee policy which Council has chosen not to address is the question of the optimum balance between the students' share and Government's share of operating costs. Several universities have expressed the desire that the students' share of operating costs return to what it was in the late 1960's or the early 1970's. Council believes that this question cannot be divorced from the larger issues of (i) Government policy on balancing its revenues and expenditures, and (ii) Government policy toward the degree of income redistribution it wishes to achieve through its taxing and spending activities. These are issues of overall fiscal policy that lie outside the purview of an advisory body on university affairs.

The issue of tuition fees has generated much emotion and discussion in the past few years. It is a highly sensitive issue because the various parties concerned - the students, the taxpayers, Government and the universities - all have a keen interest in, but often different perceptions of, the function of tuition fees. In fact, in much of the discussion, the tuition fee issue has been used as a means to comment upon several aspects of the philosophy of post-secondary education, in particular, accessibility and social equity.

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(1) The terms 'university' and 'institution' should be read throughout this memorandum as meaning the provincially assisted universities and affiliates, Dominican College, Ryerson Polytechnical Institute, the Ontario Institute for Studies in Education and Ontario College of Art.

Tuition Fees - Accessibility and Financial Assistance

Any attempt to formulate a tuition fee policy "...which would treat students equitably in light of the economic realities of our time"[2] must consider the goal of accessibility what ever the fiscal policies of Government. Accessibility[3] has been a Government policy for several years[4] and Council assumes that it will remain a stated objective of Government. Tuition fee policy must therefore consider what is a reasonable level of fees and also what effect fee changes would have on accessibility.

Accessibility should not be affected by ability to pay and therefore must be a prime consideration in any determination of tuition fee policy. There appears to be no comprehensive study available on accessibility and no conclusive evidence as to the effect of tuition fees and tuition fee changes on the demand for university education in Ontario. Despite this lack of conclusive evidence, there is a general acceptance that tuition fees do have an impact. If this assumption is valid, not only the level of fees, but also sharp fee changes will affect accessibility. High fees and/or sharp fee increases would presumably most deter individuals from lower income families.

Council heard arguments that tuition fees do not form a large percentage of the total cost of attending university and therefore do not represent a major financial barrier. Obviously this percentage will vary according to the student's standard of living and also according to whether he or she attends a local university. For those individuals who choose to attend the local university for purely financial reasons, high fees may become a major obstacle.

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(2) Minister's letter, May 10, 1979.

(3) Accessibility for all qualified applicants, but not necessarily in the program or institution of their choice. In this context, qualified refers to educational qualifications which reflect intellectual ability rather than ability to pay.

(4) "Our objective is to insure that no student who has the capacity will be deprived of the opportunity of attending university and developing his talent to the fullest possible extent." (Honourable J.N. Allan, February 23, 1959, *Legislature of Ontario Debates.*)

"We must provide whatever opportunities are necessary as a government so that each individual may be assured an opportunity through education to develop his potentialities to the fullest degree and to employ his talents that God has given him to the greatest advantage." (Honourable J.P. Robarts, February 25, 1965, *Legislature of Ontario Debates.)*

"The Government has always been concerned, not only with providing the facilities required for our students to obtain the highest standards of education, but with ensuring that each student is able to avail himself of the opportunities existing in Ontario ....the Department has attempted through a variety of programs to ensure that every able student will have the financial resources required to continue his education." *(Report of the Minister of University Affairs of Ontario 1967.)*

However, whether or not tuition fees are a large percentage of cost for the student, there seems to be agreement that tuition fees are one of the most and probably the most visible cost. Large fee increases obviously affect students already in university and both high fees and large fee increases may affect the educational and career aspirations of students in secondary school. In considering post-secondary education, these students may see tuition fees as the most visible cost and therefore use fees as an indicator of total cost. Council believes that tuition fees should not become more of an obstacle than they are perceived to be at present and that a student aid program should be an integral part of any tuition fee policy. Changes in tuition fees or fee policy should only be contemplated in conjunction with changes in student aid policy and programs.

The aim of the Ontario Student Assistance Program is to provide aid to students who could not otherwise afford to attend university. In general the program has pursued this aim with considerable success and the recent changes in the program have improved its capacity to provide assistance to students who need it most. However, one of the most constant criticisms in all discussions of tuition fees is the perceived failure of OSAP, particularly the administration of the program.

The program has also been criticized for its lack of visibility. Many students who are considering university may be aware only of the cost and not of the financial aid available. Effective publicity is an integral part of any financial assistance program and should begin as early as senior elementary school. It should be possible for universities, schools and Government to cooperate in developing a coordinated and effective publicity program.

A third criticism is that the grant eligibility periods are fixed at the first four years from first registration at a post-secondary institution. These may not be the years when the student is most in need of assistance. There is much to sustain the validity of this criticism and it should be considered in any serious reassessment of the Ontario Student Assistance Program.

The Concept and the Level of Formula Fees

The Basic Income Unit[5] as a unit integrating the Government grant and the formula fee has been generally accepted. Since the formula fee is an integral part of the present formula funding, it would seem desirable to retain the concept unless at some time in the future there emerge strong views against it and strong arguments supporting an alternative method.

At present, actual tuition fees charged at the various institutions may differ from the formula fee. These differences have been carried over from 1967-68 when the formula fee schedule was established. The formula fee for a particular program was originally calculated annually as the median of the actual fees. In 1971-72 Government fixed formula fees and since

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(5) See Operating Formula Manual, Ministry of Colleges and Universities

then there have been three increases in the formula fee schedule. In both 1972-73 and 1977-78, formula fees were increased by $100. For 1979-80, formula fees were raised by 5%. The universities have in turn passed these increases on to students.

There is now some variation in formula fees among programs but it is not large; professional programs, for example, have somewhat higher fees. Some dissatisfaction has been expressed with this historical variation and other methods of establishing tuition fees have been suggested. It has been argued, for example, that tuition fees should be related to program cost. However, program costs are an internal matter in each university and formula program weights are only intended as proxies for system-wide program costs. More importantly, relating fees to program costs could result in large differentials and very high fees for certain programs and could therefore affect program choice. The high fee itself may deter low-income students from entering the program.

Another suggestion for rationalizing the fee structure is to link tuition fees to expected future earnings. However, program choice is not necessarily linked to specific future earnings. While some programs can lead to careers yielding high earnings, a graduate of one of these programs does not necessarily pursue such a career. In any event, such an approach could not be undertaken without an extensive Government reassessment of fiscal policies, in particular, taxation and income redistribution.

Council believes that accessibility should be the prime concern when considering variations among formula fees. While the present variation is only based on historical factors, there is no indication that it has any effect on program choice. Council, therefore, does not wish to recommend a tuition fee policy based upon either program costs or potential future earnings.

Indexing of Fees

It is highly desirable to avoid the disruptions that may result from large and infrequent tuition fee increases. If fee increases are necessary, gradual annual increases which lend some measure of predictability to financial planning would be preferable to occasional sudden increases.

The indexing of tuition fees has been suggested by some. One of the suggestions is to tie tuition fees to the Consumer Price Index. Council has considered this and other methods of indexing and has concluded that indexing formula fees to the annual percentage change in Government operating grants to the university system would be the most appropriate method. Indexing formula fees in this way would mean that the annual changes would be based on Government's own fiscal decisions rather than on other economic indicators.

Institutional Autonomy in Setting Tuition Fees

Council now turns its attention to the area of institutional autonomy in setting tuition fees. Council is here concerned only with tuition fees for

regular university credit programs. As an initial point, Council believes that part-time students should be treated the same as full-time students; that is, tuition fees for part-time students should be directly related to the proportion of a full-time load being undertaken. Tuition fees for all programs other than regular credit programs and all non-tuition fee matters should remain the responsibility of the universities, as they now are.

The area of institutional autonomy has received much attention and the variety of suggestions contained in the briefs reflects the widely differing opinions that exist regarding this issue. They range from arguments for full autonomy in the area of fee-setting to complete Government control. To understand this diversity of opinion it would be helpful to look at the present organization of university affairs. The universities have full autonomy in academic matters and *de jure* autonomy in the setting of tuition fees. For approximately the last ten years, however, their autonomy in setting tuition fees has been highly restricted because they have been allowed to raise tuition fees only in accordance with Government-announced increases in formula fees. On the financial side, each institution has complete control over the internal allocation of its revenue, the major portion of which is composed of Government grants. The universities, therefore, enjoy considerable autonomy despite the fact that they are primarily publicly funded.

In formulating its recommendations, Council has sought a solution which is equitable to all. It seems appropriate that some autonomy in setting fees be returned to the universities. However, the degree of autonomy should not be such that tuition fees would become a prime factor in a student's choice of university or program.

Council is therefore recommending that the concept of the formula fee and the differentials that now exist among programs in the formula fee schedule be retained. Council is also recommending that the formula fee schedule be indexed to the annual percentage change in Government operating grants to the university system. Council further believes that each institution should be permitted to set its actual tuition fees up to a maximum of 110% of the indexed formula fees without incurring any reduction in Government grants. In light of this, Council is recommending that the Ontario Student Assistance Program should incorporate either the formula fee or the actual tuition fee charged by the institution, whichever is less.

The recommendations contained in this memorandum are intended as a unit and each recommendation should be considered in conjunction with, rather than independently of, the other recommendations. Council accordingly *recommends to the Minister:*

OCUA 79-11
FORMULA FEE SCHEDULE AND THE INDEXING OF FORMULA FEES

THAT the concept of the formula fee and the differentials that now exist among programs in the formula fee schedule be

retained, and that, beginning in 1980-81, this schedule be adjusted annually by the percentage change in Government operating grants to the university system.

OCUA 79-12
RELATIONSHIP BETWEEN FORMULA FEES AND ACTUAL TUITION FEES

THAT, beginning in 1980-81, any institution be permitted to set its actual tuition fees up to a maximum of 110% of formula fees without incurring any reduction in Government operating grants.

OCUA 79-13
TUITION FEES AND THE ONTARIO STUDENT ASSISTANCE PROGRAM

THAT, beginning in 1980-81, the Ontario Student Assistance Program incorporate either the formula fee or the actual tuition fee charged, whichever is less.

Council must stress that these recommendations are intended only as a short-term policy on tuition fees. The policy should be critically reassessed after a period of three or four years because: first, the recommended method of indexing is sensitive to economic conditions in the province and would therefore need to be reviewed in light of the prevailing circumstances, and second, it will be important to ascertain the effect that the policy has had on accessibility.

W.C. Winegard
Chairman
August 24, 1979

* Reprinted from the 1979-80 Annual Report of the Ontario Council on University Affairs.

Appendix C Australian HEC Scheme

Letter from the Australian Government to Students in Postsecondary Education Concerning the Higher Education Contribution Scheme

Minister for Employment, Education and Training
Parliament House, Canberra, ACT.2600

Dear Student

At the time the Wran Committee on Higher Education Funding reported to the Government, I sent you a summary of the Committee's major recommendations, which included the introduction of a Higher Education Contribution Scheme.

The Government's response to the Wran Committee's recommendations was announced in the 1988-89 Budget on 23 August 1988. The decisions were announced within the context of the Government's commitment to growth and expansion of higher education. This commitment is reflected in a number of measures.

- An increase in Commonwealth funded places of over 40 000 by 1991. In comparison with 1983 there will be an extra 90 000 Commonwealth funded higher education places by 1991. Priority will be directed to areas of greatest student and industry demand.
- $3.2 million a year for the next three years has been earmarked for equity projects, including $1 million a year for childcare places.
- Intake increases of 200 each year will be earmarked for Aboriginal places.
- An expansion in funds available for research.
- The introduction, on 1 January 1989, of the Higher Education Contribution Scheme based upon a student's capacity to pay.
- The abolition of the Higher Education Administration Charge.

To complement these initiatives, the Government has also announced significant enhancements to AUSTUDY and ABSTUDY including:

- an increase in maximum allowances in line with cost of living;
- a 13.5 per cent increase in the number of students who will receive financial assistance; next year, about 48,000 more students are expected to receive AUSTUDY and ABSTUDY;

- increases in the threshold income that a beneficiary's parents can earn before there is a reduction in benefits; the threshold will increase from $16 000 to $16 950;

- an alignment of AUSTUDY and ABSTUDY rates for students aged 21 years and over with dependants, and for disadvantaged students aged 21 years and over, with the unemployment benefit for equivalent groups; and

- the introduction of an asset test to ensure that AUSTUDY is a fairer scheme by removing financial support from dependent students from families with substantial asset holdings or from independent students with significant assets.

I have included more detailed information on the Higher Education Contribution Scheme and the answers to the most commonly asked questions about the Scheme.

Yours sincerely

J S Dawkins

31 October 1988

The Higher Education Contribution Scheme

Introduction

The Government is introducing the Higher Education Contribution Scheme from 1 January 1989. The operation of the Scheme will be subject to the passage of enabling legislation. The Scheme will apply to all students enrolling or re-enrolling in higher education courses from that date. It covers postgraduates as well as undergraduates, but some students will be exempt as explained in the answer to Question 1 below.

The Scheme consists of a charge which each student is liable to pay towards the cost of his or her study. In 1989 the annual charge will be $1,800 for a full-time equivalent course or $900 for each full-time semester.

The charge of $1,800 is based upon a full-time equivalent student load, as calculated by the institution. Part-time and external students will be charged an amount which is proportional to their share of a full-time load.

The amount charged each year will be indexed to keep pace with inflation so that the value of the charge will remain constant at $1,800 in today's terms. There will be no increases over and above this indexing.

A student will be able to choose between two options for paying the charge depending on her or his capacity to pay at any given time. Each student can pay the semester charge to the institution at the time of enrolment or re-enrolment or she or he may opt to pay later through the taxation system when earning an income.

If the student decides to pay on enrolment or re-enrolment then the charge for the semester is discounted by 15 per cent. For example, if the semester charge is $900 and the student chooses to pay on enrolment then she or he only has to pay $765.

If the student decides to defer payment until earning an income then the record of her or his liability is passed to the Australian Taxation Office which begins collecting the payment when the individual's income reaches $22,000. The Office stops collecting the payment if taxable income falls below $22,000 and/or when the liability has been repaid.

For students who decide to pay later through the taxation system a similar indexing process will apply to the debt they are accumulating. This means that the amount a student is required to repay will stay the same in real terms. There will be no interest rate charges over and above this annual indexation process.

Repayments through the taxation system have been set so that they increase as income increases. At the threshold income of $22,000, payment begins at 1 per cent of taxable income (i.e. $220 per year).

At $25,000, the rate increases to 2 per cent and at $35,000, it becomes 3 per cent. For the 1988-89 financial year only, these rates will be halved to account for the fact that the Scheme is being introduced halfway through the current financial year. For 1988-89, therefore, the rates will be 0.5 per cent at $22,000, 1.0 per cent at $25,000 and 1.5 per cent at $35,000. Over time these income levels will also be indexed to reflect increases in the cost of living.

Questions

1. Are There Any Exemptions?

Most higher education students will incur the charge but there are a number of exemptions. They are:

- fee paying students enrolled in postgraduate courses for which fees heve been epproved by the Minister for Employment, Education and Treining;

- students enrolled in non-eward courses;

- students in recognized bridging and supplementery courses;

- oversees students who ere elreedy peying the Overseas Student Charge, full fees or who ere essisted under foreign eid programe;

- students undertaking industriel experience as pert of e course will not be liable for thet proportion of their course spent in industry;
- students who receive one of the 19,000 postgreduate scholarships exempting them from liability under the Scheme, which includes e speciel ellocetion of postgraduete scholarships for the professional development of teechers; and

- students enrolled in basic nurse educetion coursea who will be exempt until 1993, when the Commonwealth Government takes over full funding responsibility for these courses (unless State and Territory governments request the Commonwealth to collect the contribution on their behelf before 1993).

Adult end continuing educetion students and Technical and Further Education (TAFE) atudents, including those studying in higher education courses provided wholly by TAFE institutions, ere not covered by the Scheme.

2. Whet ere the Postgraduate Exemption Scholerships?

The Government is providing 19,000 Higher Educetion Contribution Scheme exemption scholerships for postgraduates studying full or part-time; these will include e speciel ellocetion of ewards for the professional development of teechers. They involve exemption from the cherge only, and do not offer any other form of aasistance. Scholerships for the professional development of teechers will be alloceted by education authorities in each State and Territory to help improve the quality of teaching. The other scholarships will be alloceted by the institutions to encourage the highest levels of acedemic excellence and scholarship amongst postgraduates. Further advice on their allocation will be available from the institutions.

3 What Happens At Enrolment or Re-Enrolment?

At the time of enrolment or re-enrolment each student must accept liability for the Higher Fducation Contribution Scheme charge and must indicate in writing (on a form) how they intend to pay it.

If a student decides to pay immediately and obtain a 15 per cent discount then payment must accompany the enrolment acceptance

If a student opts to pay later through the taxation system then she or he must provide the institution with their tax file number or with an application for such a number, which the institution will forward to the Australian Taxation Office Normal taxation secrecy provisions will protect the privacy of each student's taxation information, including the tax file number

Those students who believe they are exempt must provide evidence of this at the time of enrolment. The institution will provide details of what this evidence must be. If any exempt student enrols in award courses outside the area of their exemption then they will be liable for the charge for these courses.

For the purpose of calculating the charge, a student may vary her or his enrolment status at any time before 31 March in the first semester and 31 August in the second semester. The charge for each semester will then apply to the student's enrolment status on these census dates.

4. What Courses Does the Scheme Apply To?

The Scheme covers all award course in higher education institutions, including:

- doctorate and postdoctorate degrees;
- master's degrees;
- postgraduate diplomas, graduate diplomas and graduate certificates;
- postgraduate qualifying and preliminary courses;
- bachelor's honours or pass degrees and bachelor's postgraduate degrees;
- diplomas and associate diplomas; and
- undergraduate certificate courses and other award courses

5. Do Students Have to Pay If They Withdraw From a Course Before the End of Semester?

Students who withdraw before the census date will not have to pay the charge for the subjects or course from which they have withdrawn. Students who withdraw after the census date will have to pay the charge. The census dates are 31 March for the first semester and 31 August for the second semester. The situation is exactly the same for those who decide to defer their studies.

If a student is forced to withdraw after these dates because of serious illness, an accident or some other personal misfortune then there will be an appeal mechanism through which they may seek a refund or to have their liability reduced or removed.

6. Do Students Have to Pay for the Subjects They Fail?

Yes.

7. Which Institutions Does the Scheme Apply To?

The Scheme applies to students in institutions providing higher education in Australia. However, it will not cover Colleges of Technical and Further Education (TAFE).

Appendix D Issues in Rate of Return Analysis

Some of the basic issues that arise in the calculation and interpretation of rates of return to investment in education are related to the effect of innate ability on earnings, the use of actual earnings as a proxy for the social value of output, the consumption component in educational costs, and assumptions about future earnings.

Innate Ability Earnings associated with different education levels and programs may reflect returns to different 'innate ability' as well as to formal education, but there has been no generally accepted technique for isolating this effect. Early calculations of rates of return were based on alternative assumptions about the fraction of the earnings differential attributable to this ability (Blaug, 1965). More recently, studies have found 'ability' to account for a significant portion of earnings differentials, but schooling and ability are so strongly complementary that precise estimates of the separate effects are difficult (Welland, 1980).

Earnings Versus Value of Output From the economy's perspective, it is sometimes questioned whether earnings measure the social value of a worker's output, and thus whether the earnings differential is a suitable measure of benefits. It has been argued, for example, that the high incomes of some professionals include a component that is attributable to monopolistic control of requirements for entry to the profession. Such restrictions may indeed result in higher earnings, but the earnings are nonetheless a measure of the value of this service to the consumers.

Another criticism of earnings as a measure of social benefits is that earnings may measure the credential effect, rather than the productivity effect, of further learning. That is, the higher earnings may include a premium paid by employers for the academic certification that a prospective employee possesses certain attributes that the employer believes to be appropriate to learning or performing certain job functions. This 'screening' hypothesis does not arise in the case of private investment decisions because the individual is concerned only with the payoff, regardless of its rationale.

Consumption or Investment? Another objection is that not all educational costs represent investment. Some part of the cost is consumption expenditure for current enjoyment of the educational experience.[1] From the

[1] It might also be argued that the costs are underestimated to the extent that there is disutility, such as studying for examinations, associated with some aspects of education.

individual's perspective, postsecondary education has both an investment aspect in that it can generate a higher future income and a consumption aspect manifested in a student's enjoyment of social, athletic, and cultural experiences at a postsecondary institution. Since benefit-cost studies assume that the total educational cost should be treated as investment, the greater the actual consumption component of education, the greater is the underestimate of the true rate of return.

Sensitivity of Calculation to Alternative Assumptions The effect of the income tax adjustment on the private rates of return for male graduates is to reduce the estimated rates by about three percentage points for the higher income occupations.[2]

Calculations of rates of return based on cross-sectional earnings data are usually criticized for not taking account of expected real growth over the graduate's lifetime.[3] Estimates of total rates of return based on an assumption of a 2 per cent annual growth in real income over the graduate's working lifetime showed that this assumption had its strongest impact on the arts and science graduates in teaching and other occupations, where the rate of return was tripled by the assumption of real growth. Otherwise, the rate was increased by three to five percentage points.

The possible effect of 'innate ability' and/or the interaction of this ability with formal education has been taken into account in other studies by reducing the observed earnings differential by 20 to 40 per cent. The assumption tested in this study, that the ability factor accounts for 40 per cent of the differential, reduced the total rate of return by about 25 per cent for all occupations. This effect varied considerably across the selected programs, however, due to the variation in the shapes of their age-earnings profiles.

The adjustment of forgone earnings based on the assumption that university students would have earned more than the other high school graduates if they had chosen to enter the labour force rather than university had only a minor effect on estimated returns. The return for engineers and lawyers was increased by about one percentage point, and for teachers it was less than one-half point.

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[2] Tables showing the estimated rates of return under alternative assumptions are included in Stager (1989).

[3] It should be noted that there may also be negative growth, or a decline in real average earnings, as occurred for lawyers in Canada during the 1970s when the rate of increase in supply exceeded the increase in demand (Stager and Foot, 1989).

A weight of 3 was originally assigned to enrolment in medicine and dentistry in the Ontario grants formula; this was later changed to 5. When the original weight was used to estimate institutional costs, the effect was to increase the total rate of return by 2 and 3 percentage points respectively.

The estimated returns were not very sensitive to the assumption that indirect institutional costs are 60 per cent of direct costs; the omission of indirect costs altogether increased the total rates of return by only one to two percentage points.

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